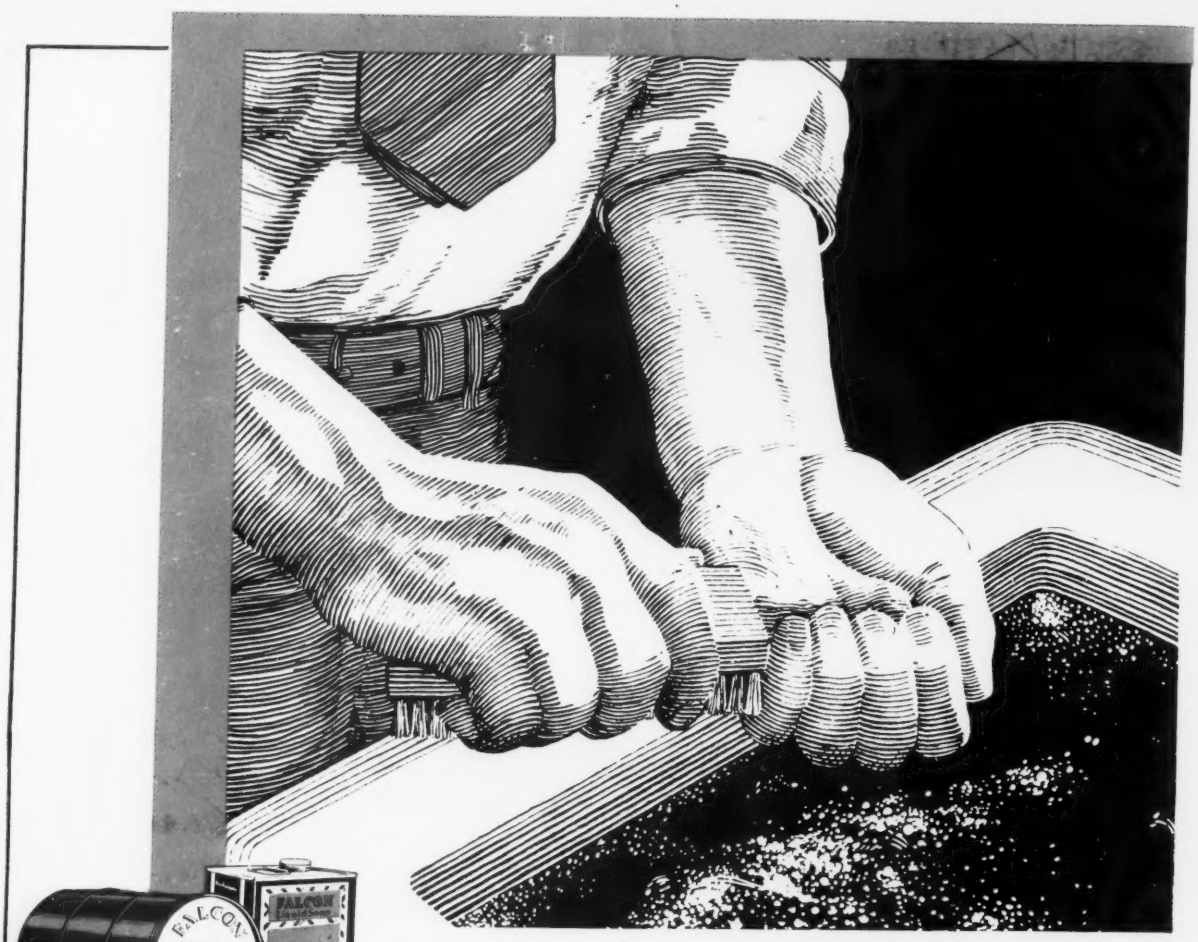
OCTOBER 1935

SOAP

SOAPS • INSECTICIDES • DISINFECTANTS • CLEANERS • POLISHES • SANITARY SUPPLIES • EXTERMINATING



FOR CUSTOMERS Hard-to-Please

FALCON 40% CONCENTRATED LIQUID TOILET SOAP

FALCON 18% LIQUID SOAP

U. S. GOVERNMENT STANDARD LIQUID TOILET SOAP

MECHANICS GRADE LIQUID TOILET SOAP

62% COCONUT OIL SOAP BASE

You've met him—the customer who is very particular. If he seems hard to please, it's because he knows values and can't be fooled.

Falcon soaps are made for the most critical customers. Tested for purity or performance, they readily prove their superiority.

For Falcon Liquid Toilet Soaps are made with what we believe is the greatest care and highest skill ever combined in the manufacture of toilet soaps. Only edible cochin coconut oil is used. The glycerine content is left intact. That is why each Falcon soap gives such mountainous lather, leaves the skin so creamy soft.

If you aren't selling Falcon Liquid Toilet Soaps—begin now. They will help build for you a sound and profitable jobbing business.

EAGLE SOAP CORPORATION
HUNTINGTON INDIANA

Falcon Liquid Toilet Soaps

PRODUCTS
FULD MAKES
for the
LEADERS

LIQUID CLEANERS
- Pine Scrub Soap
- Sassafras Scrub Soap
- Floor Bléach
- Rug Shampoo

OIL and SOFT SOAP
- All Percentage Oil Soaps
- Jelly Soaps

LIQUID and BASE SOAPS
- Liquid Hand Soaps (All percentages 10 to 40%)
- Shampoos
- Cocoanut Oil Base Soaps

DISINFECTANTS
- Pine Oil
- Coal Tar
- Cresol Compounds
- Chlorine

INSECTICIDES
- Roach Powders
- Fly Sprays
- Cattle Sprays
- Pyrethrum Sprays
- Moth Spray
- Sprays for Special Purpose

FLOOR WAXES and SEALS
- Self-Polishing Wax
- Liquid Wax
- Wood Seal
- Gym Seal
- Terrazzo Seal
- Wax-Var
- Paste Wax
- Dance Floor Wax

POLISHES
- Count 1234567
- Metal Polishes (Liquid, Paste & Powdered)
- Auto Polish
- Furniture Cream
- Furniture Polish
- Floor Oil

PLUMBING SPECIALTIES
- Drain Pipe Cleaners
- Liquid & Powdered Bowl Cleaners
- Tile & Enamel Cleaners
- Boiler Compounds

CLEANING COMPOUNDS
- Washing Compounds
- Window Cleaner
- Scouring Compounds
- Fabric Cleaners
- Weed Killers
- Waterless Cleaner
- Beer Coil Cleaner
- Paint & Varnish Remover

LIQUID DEODORANTS
- Chlorozif
- Forma Chloro Sprays
- Theatre Sprays
- Pine Deodorant
- Drip Machine Fluid

DEODORANT BLOCKS and CRYSTALS
- Urinal Blocks
- Deodorant Blocks 2 to 40 oz. sizes
- Deodorant Crystals

CONTAINERS
- Urinal Strainers
- Wall Containers
- Soap Dispensers

the "WORKS" PROGRAM

1! 2! 3! 4! 5! 6! . . . SHINE! *Count '7' Polish for Metals wakes up sleeping beauty in all metals at the count of seven* WITHOUT RUBBING.

When you give your customer a Fuld Sanitary Product, you give him the works–everything. And the Fuld complete line of Sanitary Chemicals is the great national works program for you. Our private label service works for you before and after each sale.

FULD

FULD BROS. INC.
2310 FREDERICK AVE.
BALTIMORE, MD.

SOAP

Reg. U. S. Patent Office

Volume XI
Number 10

October, 1935

SANITARY Products Section, which is included as a department of every issue of SOAP, begins on page 73. Production Section begins on page 61.

«

Contents

Published monthly on the 15th by

MAC NAIR-DORLAND COMPANY, INC

254 WEST 31st STREET NEW YORK, N. Y.

Subscription rate, $3.00 per year. Foreign, except Canada, $4.00. Canadian, $5.00. Copy closing dates—7th of month of issue for reading matter and 25th of month preceding month of issue for display advertising. Entered as second-class matter, April 11, 1931, at Post Office, New York, under act of March 3, 1879. Mail circulation, September, 1935 issue 3,066 copies. Total distribution, 3,400.

Free Flowing

Grasselli Tri-Sodium Phosphate

● For any commercial use, you will find in our T. S. P. the high quality and unvarying uniformity you require.

As our process permits GRASSELLI Tri-Sodium Phosphate to cure, it is also FREE FLOWING.

Non-Sifting Packages. Shipped to you in barrels with paper liner—no loss either in transit or storage. Also comes in kegs and bags. Grades—fines, globular, medium, coarse and flake.

Let us figure on your T. S. P. requirements. If you are in a hurry, call up our nearest branch.

THE GRASSELLI CHEMICAL COMPANY, INC.

Founded 1839 **Cleveland, Ohio**

Let Us Also Quote You on—Silicate of Soda Caustic Soda Soda Ash.

New York and Export Office: 350 Fifth Avenue

BRANCHES AND WAREHOUSES:

Albany, Birmingham, Boston, Charlotte, Chicago, Cincinnati, Detroit, Milwaukee, New Haven, New Orleans, Philadelphia, Pittsburgh, St. Louis, St. Paul

San Francisco, 584 Mission Street
Los Angeles, 2260 East 15th Street

Represented in Canada by CANADIAN INDUSTRIES, LTD.
General Chemicals Division—Montreal and Toronto

Let Us Also Quote You on—Carbon Tetrachloride, Paradichlorobenzene, Sodium Fluoride.

GRASSELLI

GRASSELLI GRADE

(A Standard Held High for 96 Years

DU PONT

YOUR LINE

Now it is possible for you to build up a sales following with products identified exclusively with YOUR NAME!

Buy the Clifton Quality Line and repack it under your own name. Our attractive labels and leaflets will stimulate your sales into the Profit Division. (The Clifton Line has been doing just that for wide-awake jobbers since 1914.)

And our prices must be quoted to be enjoyed.

featuring

★ QUALITY
★ PRICE
★ SERVICE

CLIFTON CHEMICAL CO. 246 Front St., N. Y.

Semi-Castile Liquid Soap
Foamwel Liquid Soap
Liquid Soap Base
Liquid Soap Dispensers
Cresolene Disinfectant
Bar Oil

Pine Scrub
Deodorizing Sprinklets
Oil Soaps
Mopping Varnish
Rubless Wax

Furniture Cream
Insect Killer
Coal Tar Disinfectant
Pine Disinfectant
Theatre Spray

AMERICAN C

CANCO

)cases today, Boss"

. . . but SOLD isn't the word

To some salesmen, selling means getting goods into *stores*. But the smart sales manager knows selling means getting goods into *homes*.

He knows it is easier to put his product *on* the shelves than it is to move it *off*. Knows that good distribution means little without good merchandising. Knows that the package, the display, the entire merchandising and selling plan, must be designed to get *action* over the retail counter.

If you are looking for ways to get more action at the point of sale, has it occurred to you that the American Can Company might be of help? Has it occurred to you that a company specializing in two basic sales weapons—packages and point-of-sale displays—must have quite a merchandising background?

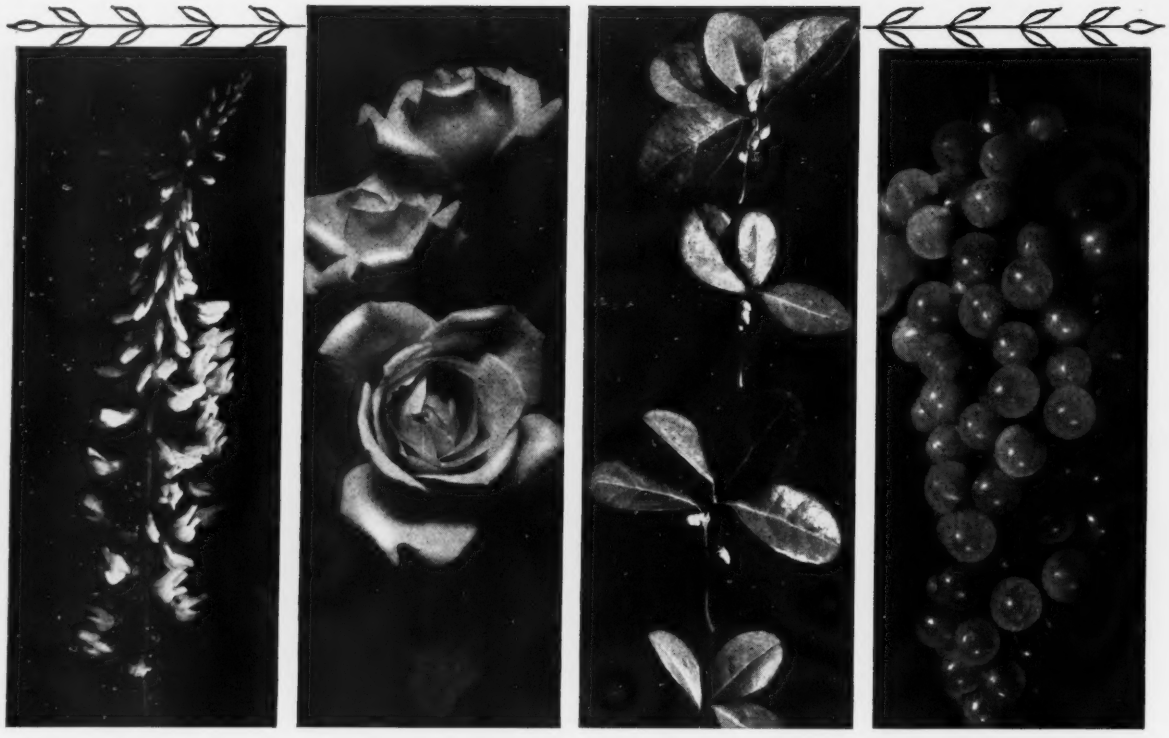
Possibly, in our broad experience, with thousands of products in almost every field, there may be something of value to you. We should be glad to work with you and contribute what we can.

Why does American Can Company concern itself with problems of retail merchandising?

Our reasons are the same as yours. *We* cannot sell more packages than you sell for us—*you* cannot sell more than people buy. The consumer is our common goal.

CAN COMPANY

230 Park Avenue - New York



Dow Aromatic Chemicals

TRADE DOW MARK

The fragrance of sweet clover, the odor of rose, and the flavors of wintergreen and grape are among the most favored in nature. These aromas and flavors are available in pure form through the use of Dow Aromatic Chemicals—Coumarin, Phenyl Ethyl Alcohol, Methyl Salicylate U.S.P., and Methyl Anthranilate.

Write for prices on Dow Aromatic Chemicals, pure, uniform, and dependable.

★

DOW COUMARIN

Dow Coumarin is a colorless crystalline product with an odor resembling that of new mown sweet clover. It is free from adulterating odors and is used as a fixative for perfumes, in the manufacture of soaps and cosmetics, and as an ingredient in food and tobacco flavors.

★

DOW PHENYL ETHYL ALCOHOL

Dow Phenyl Ethyl Alcohol is a clear, colorless liquid with a rose-like odor, making it exceptionally popular with soap manufacturers, synthetic perfumers, and compounders where a pronounced but delicate odor is desired. It is practically chemically pure which makes it possible to standardize formulae.

★

DOW METHYL SALICYLATE U. S. P.

Dow Methyl Salicylate U. S. P. is the synthetic oil of wintergreen used for most of the commercial wintergreen flavors and odors. It is a water-white liquid of exceptional clearness, used in extracts, liniments, mouth washes, dental powders, candies, and gums. It is also used in fly sprays and in penetrating lubricants.

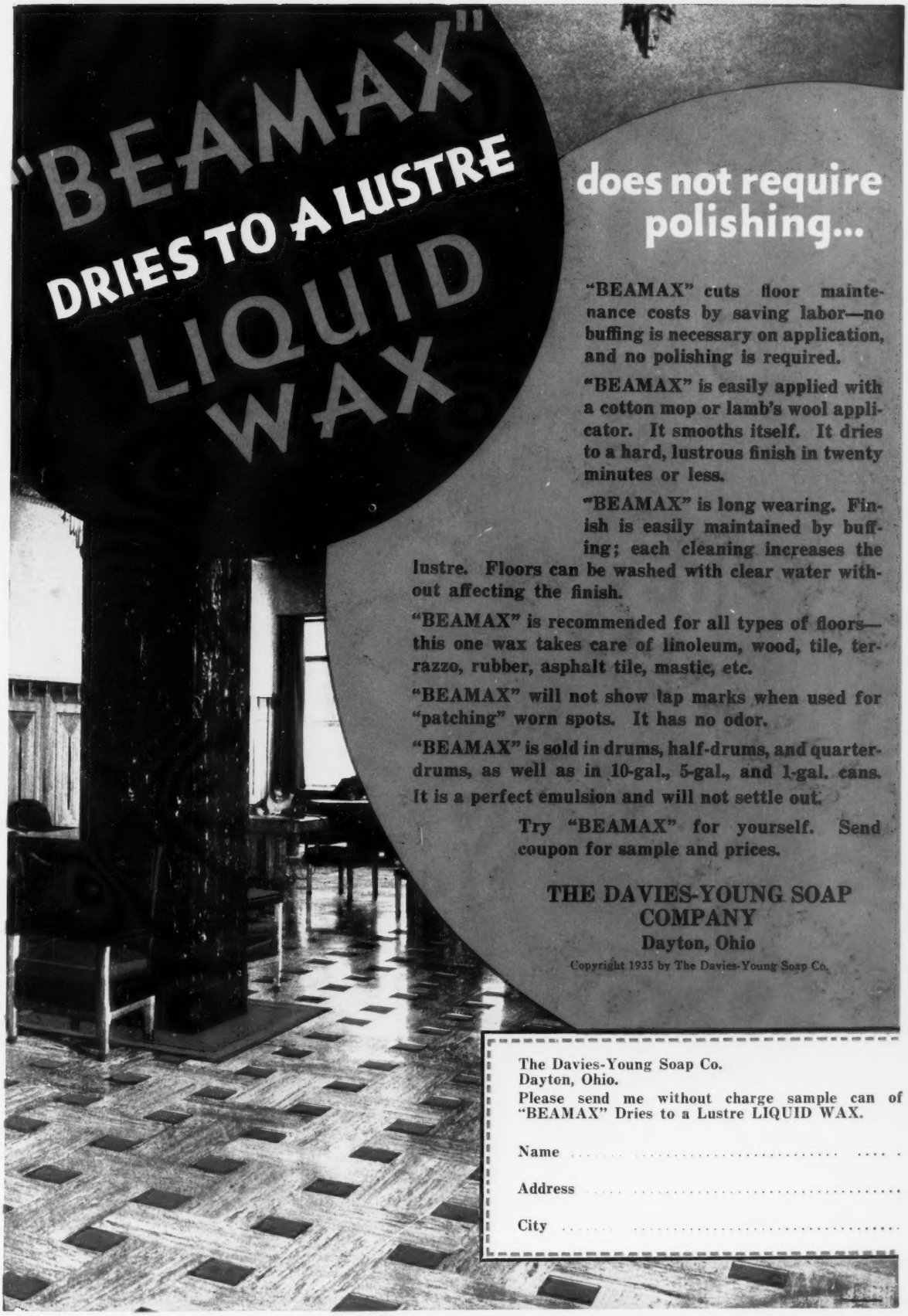
★

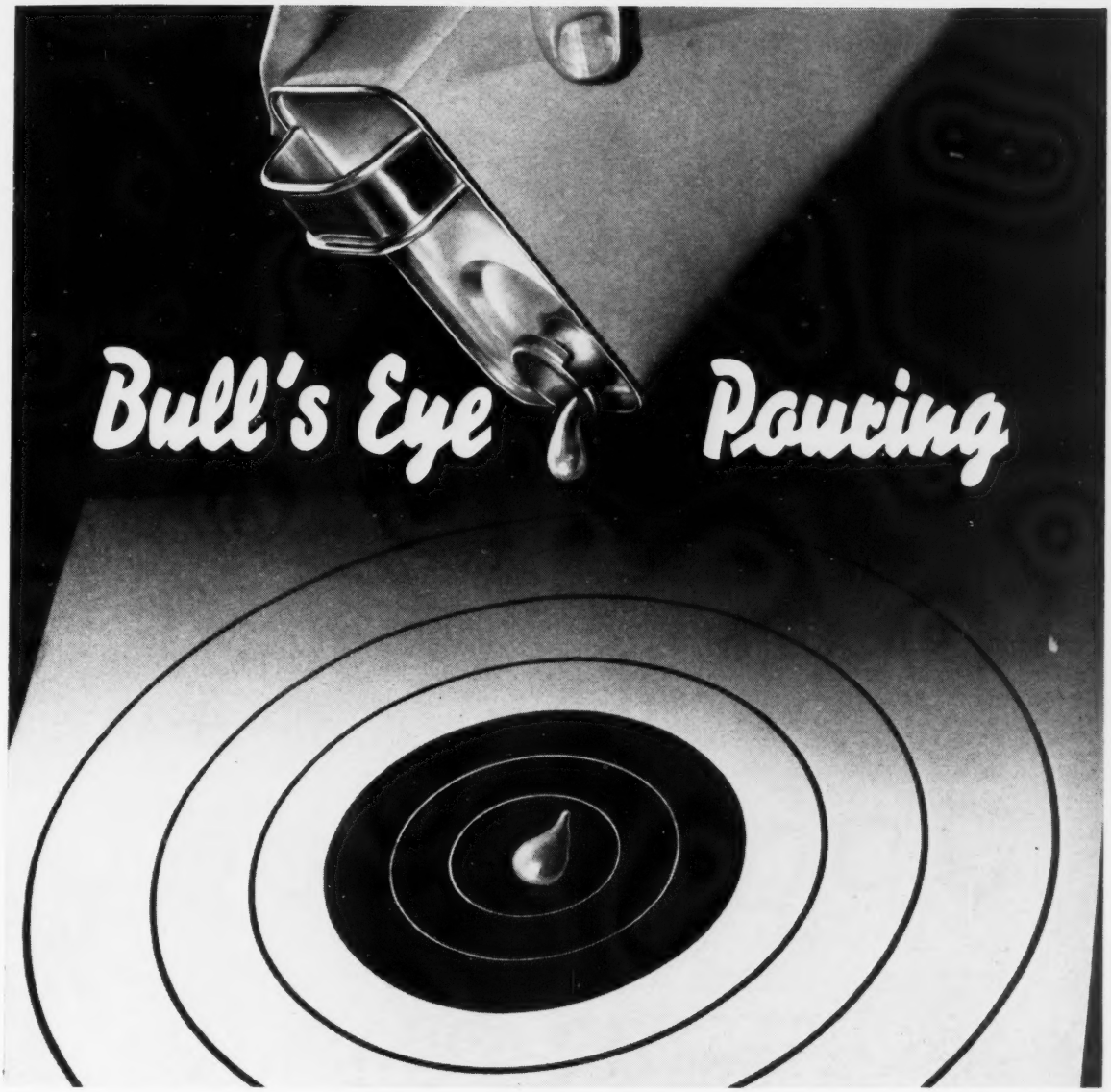
DOW METHYL ANTHRANILATE

Dow Methyl Anthranilate is in the form of colorless fluorescent crystals or liquid, with an odor and flavor resembling that of grapes. It is used in the manufacture of synthetic grape flavorings for confections, extracts, and cosmetics.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

BRANCH SALES OFFICES: 30 ROCKEFELLER PLAZA, NEW YORK CITY • SECOND AND MADISON STREETS, SAINT LOUIS


"BEAMAX"
DRIES TO A LUSTRE
LIQUID
WAX
does not require polishing...
"BEAMAX" cuts floor maintenance costs by saving labor—no buffing is necessary on application, and no polishing is required.
"BEAMAX" is easily applied with a cotton mop or lamb's wool applicator. It smooths itself. It dries to a hard, lustrous finish in twenty minutes or less.
"BEAMAX" is long wearing. Finish is easily maintained by buffing; each cleaning increases the lustre. Floors can be washed with clear water without affecting the finish.
"BEAMAX" is recommended for all types of floors—this one wax takes care of linoleum, wood, tile, terrazzo, rubber, asphalt tile, mastic, etc.
"BEAMAX" will not show lap marks when used for "patching" worn spots. It has no odor.
"BEAMAX" is sold in drums, half-drums, and quarter-drums, as well as in 10-gal., 5-gal., and 1-gal. cans. It is a perfect emulsion and will not settle out.
Try "BEAMAX" for yourself. Send coupon for sample and prices.
THE DAVIES-YOUNG SOAP COMPANY
Dayton, Ohio
Copyright 1935 by The Davies-Young Soap Co.
The Davies-Young Soap Co.
Dayton, Ohio.
Please send me without charge sample can of "BEAMAX" Dries to a Lustre LIQUID WAX.
Name .....
Address .....
City .....



WITH the Anchor Amerseal Can Nozzle there is no spilling of liquids all over the landscape. Pouring is so controlled you can hit a bull's eye with a drop. That's only one of many outstanding advantages. The caps *always* come off with an easy quarter-turn and they go on just as easily ★ Despite their easy removal they protect the contents perfectly under the toughest conditions. Because of their *outside* flange they provide an unobstructed opening larger than other styles of nozzles of a corresponding size ★ Mail the coupon today and we'll tell you how you can get all the advantages of the Anchor Amerseal Can Nozzle and Cap from your present can manufacturer.

→ → → → *send in coupon* → →

ANCHOR CAP & CLOSURE CORPORATION
LONG ISLAND CITY, N. Y. • TORONTO, CAN.

Atlanta • Baltimore • Boston • Chicago • Cincinnati • Cleveland • Denver
Detroit • Houston • Los Angeles • Louisville • Montreal • New York • Philadelphia • Pittsburgh • Rochester • St. Louis • San Francisco • Seattle • Toronto

Anchor Cap & Closure Corporation
22 Queens St., Long Island City, N. Y.

Gentlemen:

Please send us full information on Anchor Amerseal Can Nozzles and Caps.

Name.....

Address.....

City.....State.....

ANCHOR AMERSEAL CAN NOZZLES *and* CAPS

It was an old Greek custom but • *today* "NATIONAL" Containers cut a wide path thru to greater SALES • sweep forward against product competition • overcome selling resistance!

Modernize YOUR package • give YOUR product shelf appeal • speed it on to wider acceptance with the driving force of smart design.

Cutting thru to GREATER SALES is an old "NATIONAL" custom!

CUTTING THRU

...WITH THEIR CHARIOT KNIVES!

NATIONAL CAN COMPANY · 'Inc.'

FOR OVER A QUARTER CENTURY • KNOWN AS METAL PACKAGE CORPORATION

EXECUTIVE OFFICES • 110 EAST 42nd STREET • NEW YORK

One of America's Largest Canmakers

SALES OFFICES AND PLANTS • NEW YORK CITY • BALTIMORE • BROOKLYN • CHICAGO • BOSTON • DETROIT • NEW ORLEANS

FISCHER CAN COMPANY DIVISION • HAMILTON • OHIO

DOWN into the frames from your crutchers drops the hot soap, smooth as velvet. You aren't concerned about gravity. Why worry about the silicate of soda used? P. Q. Silicate, accurately tested quality, is a dependable aid in making a stable, homogeneous mass.

Over three-fourths of our century in business has been devoted to the research and development of silicates of soda for use in soaps and detergents. That's why for decades and decades many of America's leading soaps have been made with P. Q.'s pre-tested Silicates of Soda.

The silicate furnishing the exact properties for your special formulae is available from the P. Q. selection, the widest in industry. Send for Bulletin No. 171, which describes the 33 P. Q. Silicates of Soda.

VISIT OUR EXHIBIT AT EXPOSITION OF CHEMICAL INDUSTRIES, NEW YORK, DEC. 2 TO 7

PHILADELPHIA QUARTZ COMPANY

General Offices and Laboratory: 125 S. Third Street, Philadelphia, Pa. Chicago Sales Office: Engineering Building. Distributors in 60 cities. Plants at: Anderson, Ind., Baltimore, Md., Chester, Pa., Gardenville, N. Y., Kansas City, Kans., Rahway, N. J., St. Louis, Mo., Utica, Ill. Sold in Canada by National Silicates Ltd., Toronto, Ont.

ESTABLISHED 1831

PQ

REG. U.S. PAT. OFF.

SILICATES OF SODA

SOAP

Volume Eleven **Number Ten**

As the Editor Sees It . . . .

THE victory of Lever Bros. Co. in the Lamont patent suit which has been before the courts for almost the whole of the past two years means millions to the makers of "Rinso" and probably more than that to the rest of the soap industry. If the Lamont patent had been broadly interpreted by the court, and the inventor been granted the latitude which he claimed in his original patent application, every concern manufacturing a product of this type by the spray process would have been faced with the choice of effecting a working arrangement with the patent holders or facing a damage suit similar to the one brought against Lever Bros. By virtue of the decision as rendered, however, the industry is given a broad field to work in without danger of infringing the Lamont patent. The variables specified in the patent may be approximated without infringing, said Judge Slick, within a reasonable degree.

It is interesting to note that in formulating his decision Judge Slick did not touch on the point raised by Lever's attorneys that "Rinso's" popularity from 1927 to the time the suit was filed was due to the large expenditures made for advertising and sales promotion. It would be interesting to have his comments on their theory that the growing popularity of the Lever product was due, not to any new process, but to an increased advertising appropriation.

Another phase of the decision also strikes the advertising angle and promises future reverberations. In their arguments to persuade the judge that "Rinso" is not the same product as the one described in the Lamont patent, the Lever attorneys pointed out that "Rinso" contains hard particles and oversized particles of about twenty percent and dust particles of from ten to fifteen percent, while the Lamont product is described as uniform, well rounded and hollow, and free from dust. The Judge apparently agreed with the Lever attorneys, for in his decision he called attention to the fact that "Rinso" is not free flowing, nor free from dust, and tends to cake in the carton. It does not respond to the Lamont test of solubility, he said, nor is it free from a tendency to lump when poured in water.

We thus have an unusual picture of "Rinso" —the winner, but slightly battered about the head and shoulders. Lever has the decision, but parts of it seem anything but complimentary—from an advertising angle.

—•—

WHILE on the topic of advertising we might pause to make note of the fact that a recent survey of consumer-toilet-soap preferences made in drug stores in Westchester County, New York, showed that three out of four customers ask the druggist for some particular one of the nationally advertised brands. As we have read some of the advertising copy used in recent years to sell soaps, we must admit that at times we have not been particularly proud of the soap industry's record. It seems to sell soap, however, which is of course, from one point of view, the prime consideration. There must apparently still be a vast army of people who are convinced that the way to become popular overnight is to bathe with none other than "Blodgett's" soap. We have a faint suspicion that they can't all become movie stars, as per the advertisements, but in any case their friends probably appreciate the baths.

Another interesting disclosure in our survey was the failure of some of the national sellers to secure adequate distribution in the retail stores. Attempting to buy a cake of one of the three largest national sellers in a heavily patronized New York drug store, recently, we were informed that "——— soap sells so fast we can't keep it in stock." One of the penalties of greatness, we suppose.

THE problem of the soap maker does not end, of course, the minute his product is bought by the consumer. The sale cannot be called completely closed until the product is used, and is not really a successful sale unless a reorder results. This angle is a particularly important one for sellers of liquid soap. In talking recently with the salesmanager for one of the leading firms in this field he told us that one of his hardest problems was to get users of his equipment to notify him when dispensers were broken or out of order. The tendency of the porters, he said, was to leave such dispensers unfixed, sometimes substituting cake soap.

In many cases we have noticed that even dispensers in good order are left unfilled, simply because the porter is too lazy to fill them. In this connection the thought has often occurred that the liquid soap manufacturer would do well to supply some simple dispenser-filling device with his liquid soap shipments. If the dispensers are left unfilled it is obvious that this is going to cut down on consumption. Only by keeping the product out where it can be used easily and satisfactorily can maximum consumption be attained.

A RECENT opinion drawn up by a group of eminent lawyers comprising the National Lawyers' Committee is to the effect that the "Wagner Labor Relations Act" is constitutionally unsound and will eventually be outlawed by the U. S. Supreme Court as was the N. R. A. Defenders of the "New Deal" have of course been quick to spurn this gratuitous offer of assistance to the Court in making up its mind, and have raised questions as to the possibility of bias in the minds of the committee members.

Certainly it is unusual to find so many legal minds whose interests are obviously with the employers finding fault with the Wagner legislation because it fails to protect the interests of the individual workman or minority groups. We have an idea that they are much more interested in the right of employers to buy labor on their own terms, than they are in the right of the individual employee to sell his own labor on his own terms.

In any case, opinions to the contrary notwithstanding, the legislation carries the Presidential signature and will have to be obeyed for the time being at least. Employers in the soap field should familiarize themselves with the Wagner measure so as to be sure to avoid possible violation.

READING of President Roosevelt's newly announced breathing spell for business, we are reminded of the fact that industrial users of alcohol would probably be pleased if a breathing spell were proclaimed in the government's recent series of abrupt changes in the alcohol regulations. The most recent ruling of the Treasury Department prescribes use of a new denaturant—tertiary butyl alcohol—which it turns out is a patented denaturant, use of which may involve all permittees in claims for royalties on the part of the patentee. The propriety of the department's action in compelling use of a patented product seems open to serious question.

This is only the most recent in a series of government regulations which have given serious concern to industrial users of denatured alcohol. Formula No. 5 for completely denatured alcohol has recently been revoked, leaving only two formulas, both of which are claimed to be unsatisfactory by petitioners for another formula which they say would be suited to lawful uses and consistent with the interests of the government. There have been complaints, too, in regard to formula No. 23 G, which has been characterized as a new and untried denaturant, presenting possible danger from corrosion.

If the present administration would proceed a little more slowly in this matter, as well as in other more deep-seated governmental problems, asking the opinion of industry and being guided somewhat by the past experience of business men, we have no doubt that just as much progress would be made in the attainment of governmental ends, without disrupting trade and destroying business confidence. There would then be no need for a breathing spell.

Which Toilet Soap— And Why?

By FLORENCE E. WRIGHT

AT least three out of every four persons who purchase toilet soap in drug stores know what they want when they enter the store and ask for it by name. This is one conclusion drawn after a study of the toilet soap buying habits of the public in a suburban community near New York. Of course, this represents only an extremely small section of the toilet soap market of the country and for this reason, the facts unearthed may have no general significance. However, they do give a good picture of one type of soap market, an almost exclusively residential community ranging from large estates and fine homes down to tenements in the foreign quarters of the more thickly populated towns. The druggists selected to be interviewed represent a good cross-section of the retail drug business of the community.

With hundreds of brands of toilet soaps on the market to satisfy the urge for cleanliness, manufacturers naturally try every available method of forcing their own product upon the attention of the soap buying public. To find out where the housewife buys the family soap supply and what guides her in these purchases formed the primary object of this brief study of soap sales in twenty

retail drug stores in Westchester County, New York. The investigation consisted of personal interviews with the druggists, covering the buying habits of customers, the influences brought to bear on purchasers to choose particular brands, and the attitude of the druggist himself toward his sales of soap. Although the study was limited in scope, its results emphasize certain points of decided interest such as the mingled effect of carefully planned advertising campaigns and the vagaries of chance in guiding buying habits, the severe competition from the chain groceries and the potential power of the druggist to promote sales.

Containing as it does districts ranging in type from the thickly settled sections of White Plains, Yonkers and Mount Vernon to rural communities such as Mount Kisco, Bedford and Carmel, Westchester County offers a peculiarly broad field for a study which necessitates the inclusion of examples of all classes of trade. The population of the county represents practically all levels of American society from the inhabitants of the great estates on Long Island Sound or the Hudson River and in the interior, to those who live in tumble-down dwellings on the "wrong side of the tracks" or in the tenements of the cities. The vast portion of middle class suburban residents providing, probably, the largest clientele of the average store, lies between these two extremes.

The average druggist offers his customer a selection of between twenty to thirty brands of soap, although the larger stores and those catering to the exclusive trade carry as many as one hundred. Even some of the smaller stores maintain stocks up to fifty different soaps. Only three small stores carried fifteen or less and these were of the type which attract a very limited group of consumers. Such keen competition makes it interesting to know what forces lead the buyer to his final choice.

The use of counter and other display stands has an immediate and direct effect in increasing the sale of various brands of toilet soap, our survey showed.

THE fact that well over three quarters of retail drug store soap sales are of soaps whose trade-marks are daily pressed upon the attention of the public, shows the appeal and influence of national advertising. The recent large increase in sales of Woodbury's Facial Soap until it far surpasses in sales strength many other popular brands shows the results of extensive advertising combined with drastic reduction in price (twenty-five to ten cents a cake). This soap has particularly fine sales in the small suburban communities for which its advertising has a special appeal. The two toilet soaps which approach Woodbury's in popularity as judged by the volume of sales are Colgate's Cashmere Bouquet and Palmolive, both of which in the stores studied, greatly exceed Lux, Lifebuoy, Colgate's Five Cent Soaps, Camay, Ivory, and others.

Stores lying in the less prosperous districts or in more densely populated localities which attract the poorer class have considerably fewer sales in the class of advertised soaps. In such sections the druggist finds it easier to dispose of cheaper soaps not bearing well-known trademarks, because purchasers tend to be less discriminating and more readily tempted by a basket of five cent soaps sold three for ten cents than by the ten cent bar with a widely-known name.

When many washings and scrubbings for a large family have long ago destroyed a smooth skin, no number of warnings couched in fine phrases and illustrated with romantic pictures will overcome a woman's conviction that one soap will get out dirt as quickly as another. "Dishpan hands" hold no terror for the women who hang their washing between the walls of two tenements and never see the accusing eyes of their friends over a bridge table. Such people, constituting an immense strata of society, help greatly to keep up the sales of cheap unadvertised soap in city drug stores.

Large sales of Lifebuoy Soap, the B. O. banisher, are a second characteristic of the poorer and more crowded districts. Druggists located in these sections named Lifebuoy as their best selling soap, whereas it did not appear among the most rapid sellers in middle class or well-to-do areas. This would indicate, it seems, that B. O. advertising has a very considerable appeal to a poorer class of trade in the crowded sections.

The only one of the more expensive toilet soaps, aside from those carrying the druggist's own name, having any sales strength even in the better stores, was Yardley's Old English Lavender Soap, which is among the few higher-priced soaps advertised in the popular magazines. Other than Yardley's, which was the constant exception, the druggists characterized the expensive soaps as "very slow," "not worth pushing," "almost nil," or "no good to

People who buy toilet soap in the drug stores know the brand they want and ask for it,—at least, so a study of 20 Westchester stores investigated shows.

boost much." Only one druggist sold as many as four dozen of the high priced brands in a month.

AS was noted previously, at least seventy-five per cent of people purchasing toilet soap in drug stores know what they want and ask for it. The two druggists who gave percentages below seventy-five for people who specify the brand they want were in the habit of placing baskets containing a number of cakes of a chosen soap in a prominent position. They noticed that in these circumstances, most people picked up what was exhibited regardless of the changes in brand. These facts give interesting evidence of the effect of pure chance in such purchases and point out the possibility of sales guidance on the part of the individual druggist.

The experience of another druggist selling chiefly to a very wealthy group of customers is notable for emphasizing the possible influence which the individual owner may wield. Forty per cent of his customers did not specify the brand or had already been converted to the use of a particular soap on his previous recommendation, a situation which, no doubt, explains the fact that this druggist's best selling soap was a castile soap with his own name on the wrapper. Thus, it appears that by years of service and sales efforts, the druggist is able to build up his sales of unadvertised soap to the profit of both himself and his manufacturer. The enterprise and dependability of the individual enable him to guide and direct his customers, a fact which deserves some consideration. Although the influence of such druggists is significant, it is quite evident that the average person asks for the soap he wants, having already become accustomed to its use or persuaded to try it out through the advertising of the manufacturer.

The majority of retail druggists interviewed think of toilet soap as an unimportant side line, necessary to maintain as a customary article of stock, but deserving of little attention or special merchandising effort. The increasing competition from the grocery chains intensifies this attitude and the belief that any unusual selling effort is a useless waste. Since most of the chain groceries sell soap at cut prices, it has become both convenient and economical for the housewife to buy the family soap supply when she does the rest of the marketing. Even the physical location of the stores works against the druggist, for there is no suburban center which does not have the drug store and grocery almost side by side. No logical reason exists for the customer to walk in one door rather than the other where she can save one to three cents a cake.

This usurpation of what was formerly almost entirely the druggist's field causes much resentment and ill-will. One drug store proprietor became very angry when questioned about his soap sales, and refused to give any information, saying, "I don't know anything about it.—

(*Turn to Page* 59)

Lever Victor in Lamont Patent Case Patent Ruled Valid But Limited in Its Application by Court

Court Issues SPRAY SOAP

IN a decision handed down September 14 in the U. S. District Court for the Northern District of Indiana by Federal Judge Thomas W. Slick, the patent infringement charge made by Colgate-Palmolive-Peet Co. and Procter & Gamble Co. against Lever Bros. Co. was dismissed and the product of the defendant, "Rinso," was declared not to be an infringement either of the process or the product covered by the patents of the plaintiffs. The decision in this suit which has been in process of litigation for the past several years is one of far-reaching importance, since, if the claim of patent infringement had been sustained, not only would the Lever company have been liable for tremendous damages but also other firms in the soap industry would have been forced to make arrangements to operate under the Lamont patent or face similar litigation.

Suit was instituted in January, 1931, and the trial opened in the Federal District Court at South Bend, Ind. October 1, 1934. The trial continued for nearly seven weeks, with thousands of pages of testimony being taken, and during the trial Judge Slick visited the Lever factory at Hammond to actually see "Rinso" made and to view demonstrations of certain old spray drying apparatus installed there for the purpose. The defense brief was filed by the Lever attorneys, April 27, 1935, followed by the plaintiff's brief, and the case was argued before Judge Slick June 25-27, 1935. His decision has been handed down much more promptly than had been anticipated.

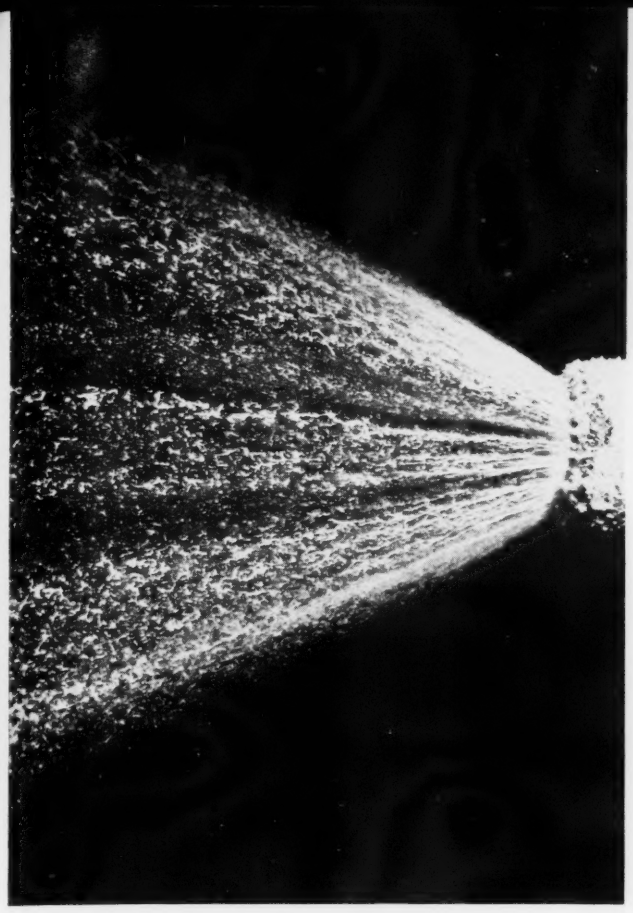
Concerning the Lamont patent, nothing in Judge Slick's decision invalidates it, although it is interpreted in a narrow sense to apply to a specific process and a product of a particular type. This case furnishes a good example of difficulties frequently encountered in differentiating between old processes and a new process embracing and overlapping many known properties.

Judge Slick pointed to the differences in temperatures of soap at the spraying nozzle and also to the differences in temperature of the air currents through which the sprayed soap falls, declaring that the Lamont patent details the best specifications for these parts of the process.

"The question then arises," he continued, "how nearly may these variables be approximated without infringing? The rational answer would seem to be that they may be approximated with a reasonable degree."

CONCERNING the product itself which was claimed to infringe, Judge Slick said of "Rinso:"

"Defendant's accused product, 'Rinso,' is an aerated product made up essentially of a wide variety of particles in respect of size and structure comprising dust,



Judge Slick Rules "Rinso" Does Not Infringe in Suit Brought by Colgate and P & G Against Lever

Decision In LITIGATION

hard particles and spongy or honeycombed particles, all of more or less irregular exterior which characterize the product. It contains only a small poportion (about 10 per cent) of round and hollow particles such as described and illustrated in the Lamont patent. It is not uniform according to the Lamont definition, having a uniformity value measured according to the Lamont patent, of less than .50 as compared to Lamont's uniformity of .75. It tends to cake in the carton, is not free-flowing and is not free from dust. It does not have the appearance of a collection of little balls of soap. A small though substantial portion thereof sinks when poured on water. 'Rinso' has a specific gravity of .33, at least three times that of Lamont's preferred product. It does not respond to the Lamont test of solubility, nor is it free from a tendency to lump when poured in water."

In reaching his decision Judge Slick found it necessary not only to make himself thoroughly familiar with modern practice in the soap industry but also to go back into previous processes on which modern methods rest. "Soap," he found, "is a substance of peculiar and extraordinary properties, difficult to handle and extremely hard to spray dry. It is divided by soap makers into three classes, namely, neat or kettle soap, middle soap, and nigre soap. Neat soap is free flowing and when water is added does not thin as would naturally be expected, but becomes thicker, less tractable and reverts into what is called middle soap, and if enough water is added, becomes nigre.

"Spray drying is an old art but it is reasonably new when applied to soap. If it is desired to prepare soap to be spray dried, that is, secure the proper fluidity, it is necessary to raise the temperature of the soap. Fluidity is obtained therefore by increasing the temperature, not by increasing the water content. All this was known to the art and to the practical soap maker long prior to 1927.

"LAMONT describes a preferred product, and, if what he designates as preferred product is to be the guide, defendant's product, modern 'Rinso,' does not infringe. The Lamont process contemplates ejecting the soap into a current of heated air that flows in the same direction as the soap is sprayed. This is termed concurrent spraying.

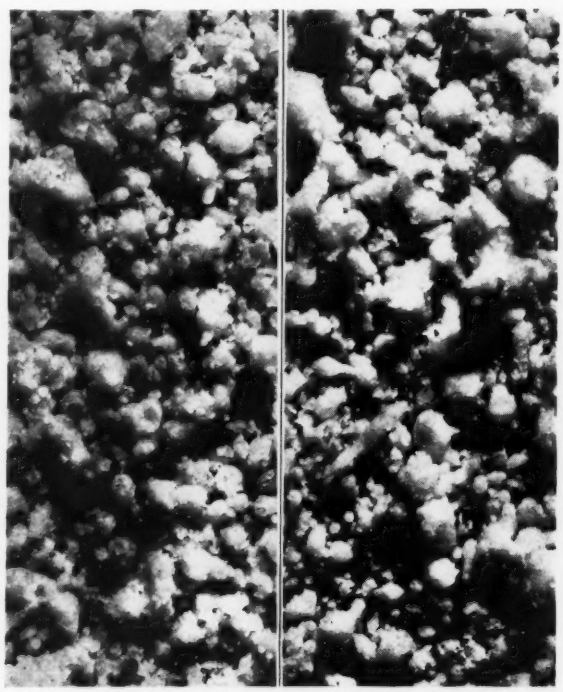
"In defendant's process of manufacturing, the soap fluid is ejected into air currents that vary in direction, but about 75 per cent of these currents of hot air run counter to the direction of the spray. This is called counter current spraying. Thus, while the Lamont process contemplates concurrent spraying, the defendant's process is three-fourths, or about 75 per cent counter current.

Lever's "Rinso" and six of the competing products of Colgate and Procter & Gamble Co.

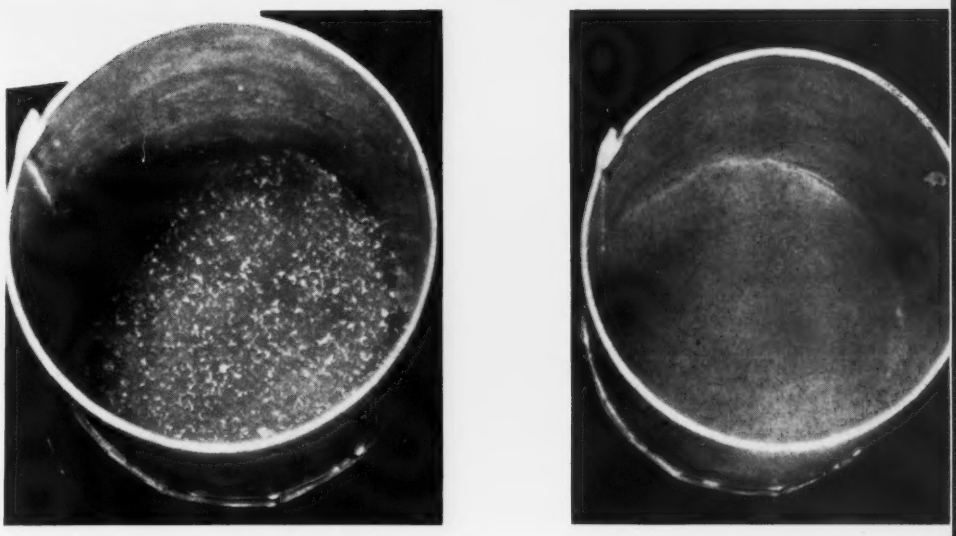
"Lamont says in his specifications that the particular process conditions discovered by him are principally initial air temperatures and soap temperature, meaning of course the temperature of the treating gas or hot air into which the soap is sprayed and the temperature of the soap as it leaves the spray nozzle. His preferred temperatures for spraying soap of a solid content of 60 per cent are, for the soap in the soap line 220° F. to 230° F. and for the drying air 450° F. to 500° F. It should be noted that the soap line temperature as taken by Lamont, corresponds to a soap temperature at the point of discharge from he nozzle of about 250° F. to 260° F. He does not limit the scope of his claims to these temperatures, but strongly recommends them, advising the operator to coordinate these temperatures with other process variables so as to produce the best possible product. He explains that if the temperature of the air into which the soap is sprayed is too low, the particles in the finished product are irregular and distorted, and if the air temperature is too high, they will be disrupted and have the appearance of broken shells. He also claims that spraying at proper air temperature, such as he describes, tends to create steam inside the soap particles.

"THE Lamont patent describes a process which ejects the soap liquid into a current of superheated air flowing concurrently with the spray and in which air current there is substantially no whirling or eddying, so that all sprayed particles of soap contact the drying air at substantially the same temperature, and finally, the product manufactured under the Lamont patent is of such texture that it may be and is taken directly to the bins and is ready for shipment to the trade.

"In addition to the fact that 75 per cent of defendant's soap is sprayed into counter currents in counter distinction to plaintiff's concurrent process, the fact is that 75 per cent of defendant's soap is sprayed into treating gas or hot air at a temperature less than 212° F., whereas, the plaintiffs' specifications call for air temperature of 450° F. to 500° F., and further, the temperature of the soap, sprayed at the nozzle, in defendant's process is not over 200° F., whereas Lamont specifies the equivalent of 250° to 260° F. Plaintiffs claim a product uniform, well rounded and hollow, and free from dust, whereas defendant's product has hard particles and oversized particles of about 20 per cent and dust particles of from 10 per cent to 15 per cent.



"Rinso" (steam blown) on left shows close similarity under microscope to "Rinso" (air blown) Photo from Defendant's Brief.



Solubility Test offered by Lever counsel showed "Rinso" (left) dissimilar to "Super Suds"

"While defendant's product resembles to the casual observer, the product of plaintiffs, it, in many respects, is quite dissimilar."

Eminent legal minds were engaged by both sides in this important patent trial, which might have involved damages running into the tens of millions if Colgate-Palmolive-Peet Co. and Procter & Gamble Co. had been sustained in their claims. Counsel for the defendant included Ramsay Hoguet of New York, Frank Parker Davis, John B. Macauley and C. B. Tinkham of Hammond, Floyd S. Davis, and Leroy C. Shonts of Boston. Appearing for the plaintiffs were former Secretary of War Newton D. Baker of Milwaukee, Marsten Allen of Cincinnati, Arthur C. Denison and Louis Quarles.

The 8 ounce package of "Rinso" bulks much smaller than the 9-oz. package of "Super Suds." "Different product," argued counsel.

SOUTHERN SOAP SALES RISE

Sales of soaps to consumers in the agricultural southeast of United States seem to have shared in the general upturn which sales to this district have experienced over the past two years. Figures just released by the A.A.A. in Washington, show that shipments of soap products from the sixteen northeastern industrial states to ten agricultural states in the southeast increased from a total of 62,278,520 pounds for the year ended June 30, 1933, to 72,338,722 pounds for the year ended June 30, 1934, the increase amounting to 16 per cent. Sales for all industrial and manufactured products showed a somewhat larger increase, the average being 38.8 per cent. Figures for the first year cover the year immediately preceding the operation of the A.A.A., and the second year covers the period when the government's agricultural relief program was in effect.

Solvay Sales Corporation announces the opening of two new branch offices, one at Houston, Texas in the Petroleum Building; the other at Charlotte, N. C., in the Johnston Building. The new branches were established to give better service to customers in the south and southwest. No change in Solvay's present distributing representation in these territories is contemplated and customers' requirements will continue to be handled through present sources of supply as heretofore.

Benton & Bowles, Inc., New York, have been appointed to handle the advertising of "Minit-Rub," a product of Bristol-Myers Co. No decision has been made as to what media will be used.

A passably clean floor in the shortest possible time,—this seems to be the motto of the employe behind the mop. Therefore, floor scrub soaps must do a satisfactory cleaning job under indifferent conditions of use. The ideal product must give maximum detergent action with a minimum of effort.

FLOOR SCRUB SOAPS

By DR. C. A. TYLER

WHEN the terms floor scrub soap, or scrubbing soap are mentioned today, they are interpreted in the soap trade to indicate the heavy, viscous yellow or brown liquid soaps designed solely for cleaning floors. There are innumerable other kinds of floor cleaning products, powders, crystals, emulsions, and pastes, all suitable for various types of work, but for general floor cleaning, the heavy liquid soap is the product most commonly sold today. Although these liquids have a wide variation in composition and quality, according to manufacturer and the price at which they are sold, the standard item is supposed to be a potash linseed oil soap solution of approximately 23 per cent, thickened with about three per cent of pine oil, or some other thickening agent such as potassium carbonate or trisodium phosphate.

Not always is linseed oil used and not always is the soap a straight potash product. Sunflower oil, rapeseed oil, peanut oil, soya bean oil, and even cotton oil foots are used. Sometimes fatty acids make up part of the raw material. In fact, almost any kind of fatty raw material has been known to go into this class of soap product with a consequent variation in quality of wide dimensions. In some instances, the scrub soap is not a potash soap at all, but a soda soap made from red oil. This product gives a heavy viscous soap when in comparatively low dilution. A 12 per cent red oil-soda soap solution looks to the casual and uninformed observer to be just about as thick as the standard 23 per cent potash-linseed soap. However, with only half of the soap content of the standard product, it naturally cannot have the detergent value of the latter. The red oil soap has its chief asset in being able to be sold at a materially lower price.

The manufacture of liquid floor scrub soaps in order to obtain the best results is usually carried on in two stages. The first step is the making up of the soap solution of proper soap content by diluting the concentrated potash soap or other soap with water and boiling it up until solution is complete. This solution is then permitted to stand for several days at ordinary room temperature to permit the settling out of foreign matter. The clear soap solution is then returned to the kettle and the pine oil, carbonate or other alkali is cooked in. This finished product is then permitted to stand again to settle out and clear up before filling into drums.

The liquid floor scrubs on the market at present fall into two general classes,—the clear liquid soap solutions running anywhere from 10 per cent up to 25 per cent soap content, and the emulsion products which contain usually a large proportion of oil or solvent. Of these latter, their uses are generally confined to the cleaning of very greasy or excessively dirty floors such as garages, factories, etc. Some of these emulsion type floor cleaners are in reality typical coal-tar disinfectants, that is, regular potash soap or in some cases rosin-soda mixed with creosote oil, tar acid oil, or similar coal-tar product. These are miscible with kerosene oil in any proportion and in this form will also form good emulsions in water. This permits of the cleansing and emulsifying action of the soap present, plus the solvent action of the kerosene, or other added solvent, and the coal-tar oil.

For the scrubbing of greasy floors where the adverse action of the solvent or added alkali on the floor itself is not important, they are extremely effective cleansers. But where the action on the floor surface must be considered, such as linoleum, rubber, cork composition, etc., the straight scrub soap solution is the product required. Of course, there are also various paste soaps, running 30 to 50 per cent soap content, designed as floor cleaners, but these are of minor importance. Among the powders, there are some specialties stated to be designed solely for floor cleaning. In fact, almost every type of powdered detergent from plain volcanic ash down to ordinary soap powder, finds use somewhere on some kinds of floors for regular cleaning. However, the trend toward the liquid floor scrub, owing to its greater suitability for finer and more delicate floorings, makes it an increasingly important item in the soap specialty field. It is usually sold in three types, (1) pine scrub with 2 or 3 per cent of pine oil, (2) sassafras scrub, without pine and merely perfumed with sassafrassy camphor, and (3) plain without added odor.

Keeping the floors clean in office buildings, hospitals and other large institutions is no simple matter; the problem of what to do it with is left on the doorstep of the detergent manufacturer. There are many types of flooring material to be considered. No one detergent product is suited to clean all of them. Many building

superintendents and janitors place considerable confidence in the use of alkaline salts, with or without soap, which they know will clean. What they do to the floors is another question.

THE purpose of a floor-scrubbing soap is to give good cleansing action under indifferent conditions of use. The product should be such that it will leave the floor looking bright even when it is not thoroughly rinsed. There should be no dull-appearing residue left behind. The individuals who actually use the products are not interested in keeping the floor looking its best, but in keeping it passably clean with the least possible effort, you might say maximum coverage with minimum energy. Since floors are washed in a slip-shod manner, anything that will improve their appearance under these conditions justifies its existence.

Alkaline salts are absolutely barred from products to be used on linoleum and linoleum tile. This is because the alkali will tend to saponify the linseed oil present as an ingredient in such flooring materials, and thus cause deterioration of the floor covering. Solutions of alkaline salts also have a solvent action on paint and varnish and should be used with caution on wood floors. On the other hand products containing grease solvents are apt to attack tiled floorings such as rubber compositions and asphalt.

A number of specialty manufacturers have recognized these difficulties and endeavored to develop compounds believed to be free from any injurious materials. Such products are usually based on potassium soap, which is readily soluble and which gives a good suds in cold water. It is necessary to stick to a low-titre soap to get a good suds in water at room temperature, so that potash vegetable oil soaps are the usual answer. These are slightly superfatted because of the difficulty of exact neutralization. This type is really a carry-over from the old oleic acid soaps used for washing carriages back in the horse-and-buggy days. There seems to be a notion that linseed oil soap is more satisfactory than oleic acid soap. Just what this is based on is not clear; perhaps it is thought that on application, the excess linseed oil will become oxidized by exposure and form a thin protective film. Actually there is never enough free oil present to form a real film. It is claimed that these slightly superfatted soaps will give linoleum a more glossy surface than washing with ordinary neutral soap, and that they tend to prevent streaking.

Soy bean oil is somewhat related to linseed oil in properties in that it has a relatively high iodine number. Apparently for this reason, soy bean oil soaps are also used extensively. Linseed oil was used for the purpose before other vegetable oils were commercially available. It is probable that much of the indicated preference for linseed oil rests on the fact that it was the first to be used. Many people get a fixed idea and stick to it regardless of new developments offering new possibilities.

Triethanolamine soaps may be used in order to avoid alkali from hydrolysis, that is, to give a lower pH in solution. A 2 per cent solution of free triethanolamine gives a pH of 9.6, in contrast to the extreme alkalinity of a solution of the same concentration of caustic soda, which would give a reaction in the neighborhood of pH 14. A dilute solution of triethanolamine soap gives a pH of about 8, which is practical neutrality, while a dilute solution of soda soap gives a pH a little over 10. A solution of triethanolamine soap might therefore be described as very faintly alkaline. Practically speaking, this means it would not injure linoleum or painted surfaces. In considering the effect of the alkalinity of a cleaning solution on a surface, the pH of the diluted solution is a truer measure of potential damage than the value for free alkali.

MOST scrubbing liquids contain pine oil which was probably introduced originally for its disinfectant action. However, the presence of pine oil does not permit one to make the statement that these products are disinfectants. Such a claim would bring them under the jurisdiction of the Food and Drug Act and the actual disinfectant action of the product as recommended for use would have to be given. For example, the manufacturer could not recommend the use of half a pint of his product in a pail of water; he would have to give the exact quantity of each to be used and then express the disinfectant action quantitatively for the final dilution.

Whether or not the amount of pine oil as used in this way is effectual as a disinfectant, it does serve as a deodorant. Deodorants act in either of two ways. They may destroy the microorganisms that give rise to putrefaction of organic matter, that is, remove the cause,—or they may have a more powerful and characteristic odor of their own which masks the objectionable odor. Supposedly pine oil should serve in both capacities. It probably retains some disinfectant action and it certainly possesses a powerful and persistent odor capable of masking minor unpleasant odors. Probably the most important advantage of pine oil as an ingredient lies in its solvent properties. It has a solvent action on grease, resins and other oils, which makes it valuable as a cleaning agent. At the same time this very attribute makes its use undesirable in some cases. Asphalt tile is easily and badly deteriorated by contact with pine oil, on which the latter has a dissolving action. If left in contact with a rubber tile floor, it would tend to swell the rubber, causing damage.

Pine oil increases the viscosity of liquid soap. The greater the amount of pine oil, the more viscous will be the resulting product. A pine oil content over three per cent will usually cause clouding of the soap solution. The oil may therefore be used for bodying, although this was probably not the original intention. To the average consumer, the further a liquid product is from having a watery appearance, the greater its value in his mind. No doubt he thinks he's buying less water, which

may or may not be the case. Of course this does apply to paste soaps, which are simply more concentrated forms of liquid compounds.

All kinds of scrubbing powders are sold, which are mixtures of soap and alkaline salts. These are hardly comparable with the liquid and paste products. The main merit of the powders is their cheapness. The price is proportional to the soap content. The ordinary buyer can't tell anything from the appearance of the product. The object of the manufacturer naturally is to make it as inexpensive as possible. To do this he dissolves soap in water, adds soda ash, and then lets the material crystallize out with as much water as possible. Chilling rolls are used to cause crystallization of the decahydrate with the result that ten molecules of water are obtained with every molecule of soda ash. This increases the weight of the soda ash about 130 per cent over that of the monohydrate, and still gives a dry crystalline product. Powdered compositions sometimes contain abrasives. These are most suitable for use on stone, where a slight residue of abrasive is not objectionable. Powdered products such as have been described are more compatible with marble, terrazzo and stone than they are with varnished wood or with composition floorings.

LIQUID soaps sold for purposes of floor maintenance are clear and yellow to brown in color. A product recommended by the manufacturer for scrubbing linoleum, rubber, tile, and terrazzo floors, and varnished woodwork contains about 13 per cent of potash corn oil soap, 2.5 per cent of pine oil, and the rest water. The soap present is the major cleansing agent, while the pine oil gives the product the clean pine odor and helps to remove grease. The amount of pine oil used here is sufficient to make the liquid highly viscous, so much so that it pours with some difficulty. Although actually the product is an oil-in-water emulsion, since pine oil is not soluble in water, it does not have the milky appearance usually associated with emulsions. This is because the pine oil is so readily emulsified and so finely dispersed that the individual droplets cannot be observed with the naked eye. To all appearances a solution is obtained.

Another liquid soap is described by the manufacturer as being suitable for all types of rigid and resilient floorings. The former would include wood, marble, terrazzo, and the latter linoleum, rubber, cork and mastic. This product contains about 6 per cent of potash-oleic acid soap, 6 per cent of triethanolamine-oleic acid soap, 2 per cent of free triethanolamine, and the balance water. The soap content of this is about the same as in the previous product. Evidently triethanolamine soap is used to give a more nearly neutral soap in dilute solution, making it suitable for use on floorings injured by alkali. Free triethanolamine present reacts with saponifiable matter in the soil to form nascent soap, which is considered to be particularly efficient in detergent action. At the same time it does not increase the alkalinity unduly, as the presence of free caustic alkali would.

A somewhat different type of product, in that it is intended to attack grease primarily, has the following approximate composition: 18 per cent of potash soap, 10 per cent of water, 20 per cent of tar acid oil, and 52 per cent of pine oil. This is recommended for cleaning grease from concrete floors such as found in garages, and for washing truck bodies. The high solvent content in the form of easily emulsifiable oils is to meet the special requirements for which it was intended, that is, a rougher and much more greasy type of cleaning than is normally encountered. For such use the cleaner is left in contact with the soil for some time and then hosed off.

A similar cleaner high in pine oil is used in the same way for greasy floors, motor parts, and other surfaces that collect grease. It is also recommended by the manufacturer as a thorough and non-corrosive cleaner to be diluted with water in the usual way for cleaning marble, terrazzo, etc. The product contains about 13 per cent of soda soap, 10 per cent of water, 10 per cent of tar acid oils, and 67 per cent of pine oil. The product is a dark brown liquid.

A liquid cleaner which is milky in appearance is particularly recommended by the manufacturer for cleaning painted, varnished and lacquered surfaces, and is guaranteed not to injure them. The product has more of a polish-cleaner nature than that of a scrubbing compound. It contains about 60 per cent of kerosene, 5 per cent of triethanolamine soap, and the rest water. The product carries the distinct odor of kerosene.

Mopping powder may be illustrated by a commercial product which is a finely ground, cream colored powder. On close examination, yellow particles of soap are seen to be admixed with white particles of other material. Both alkaline salts and abrasive are mixed with the soap. The approximate composition is as follows: Ground silica, (the abrasive), 27 per cent, soda soap 11 per cent, hydrated soda ash 58 per cent, and trisodium phosphate 4 per cent. This type of product should be efficient for scrubbing floors meant to withstand the action of alkali and the friction of an abrasive. This would apply to rigid floorings other than finished wood, such as cement, terrazzo, stone, etc.

Shampoo Manufacture

A study of modern shampoos,—their manufacture, raw materials, packaging, labelling, and use,—a series of two articles by Ralph H. Auch, well-known contributor to these pages, will be published in the November and December issues of SOAP. Mr. Auch will present a compilation of practical information on shampoos based on long manufacturing and merchandising experience.

superintendents and janitors place considerable confidence in the use of alkaline salts, with or without soap, which they know will clean. What they do to the floors is another question.

THE purpose of a floor-scrubbing soap is to give good cleansing action under indifferent conditions of use. The product should be such that it will leave the floor looking bright even when it is not thoroughly rinsed. There should be no dull-appearing residue left behind. The individuals who actually use the products are not interested in keeping the floor looking its best, but in keeping it passably clean with the least possible effort, you might say maximum coverage with minimum energy. Since floors are washed in a slip-shod manner, anything that will improve their appearance under these conditions justifies its existence.

Alkaline salts are absolutely barred from products to be used on linoleum and linoleum tile. This is because the alkali will tend to saponify the linseed oil present as an ingredient in such flooring materials, and thus cause deterioration of the floor covering. Solutions of alkaline salts also have a solvent action on paint and varnish and should be used with caution on wood floors. On the other hand products containing grease solvents are apt to attack tiled floorings such as rubber compositions and asphalt.

A number of specialty manufacturers have recognized these difficulties and endeavored to develop compounds believed to be free from any injurious materials. Such products are usually based on potassium soap, which is readily soluble and which gives a good suds in cold water. It is necessary to stick to a low-titre soap to get a good suds in water at room temperature, so that potash vegetable oil soaps are the usual answer. These are slightly superfatted because of the difficulty of exact neutralization. This type is really a carry-over from the old oleic acid soaps used for washing carriages back in the horse-and-buggy days. There seems to be a notion that linseed oil soap is more satisfactory than oleic acid soap. Just what this is based on is not clear; perhaps it is thought that on application, the excess linseed oil will become oxidized by exposure and form a thin protective film. Actually there is never enough free oil present to form a real film. It is claimed that these slightly superfatted soaps will give linoleum a more glossy surface than washing with ordinary neutral soap, and that they tend to prevent streaking.

Soy bean oil is somewhat related to linseed oil in properties in that it has a relatively high iodine number. Apparently for this reason, soy bean oil soaps are also used extensively. Linseed oil was used for the purpose before other vegetable oils were commercially available. It is probable that much of the indicated preference for linseed oil rests on the fact that it was the first to be used. Many people get a fixed idea and stick to it regardless of new developments offering new possibilities.

Triethanolamine soaps may be used in order to avoid alkali from hydrolysis, that is, to give a lower pH in solution. A 2 per cent solution of free triethanolamine gives a pH of 9.6, in contrast to the extreme alkalinity of a solution of the same concentration of caustic soda, which would give a reaction in the neighborhood of pH 14. A dilute solution of triethanolamine soap gives a pH of about 8, which is practical neutrality, while a dilute solution of soda soap gives a pH a little over 10. A solution of triethanolamine soap might therefore be described as very faintly alkaline. Practically speaking, this means it would not injure linoleum or painted surfaces. In considering the effect of the alkalinity of a cleaning solution on a surface, the pH of the diluted solution is a truer measure of potential damage than the value for free alkali.

MOST scrubbing liquids contain pine oil which was probably introduced originally for its disinfectant action. However, the presence of pine oil does not permit one to make the statement that these products are disinfectants. Such a claim would bring them under the jurisdiction of the Food and Drug Act and the actual disinfectant action of the product as recommended for use would have to be given. For example, the manufacturer could not recommend the use of half a pint of his product in a pail of water; he would have to give the exact quantity of each to be used and then express the disinfectant action quantitatively for the final dilution.

Whether or not the amount of pine oil as used in this way is effectual as a disinfectant, it does serve as a deodorant. Deodorants act in either of two ways. They may destroy the microorganisms that give rise to putrefaction of organic matter, that is, remove the cause,—or they may have a more powerful and characteristic odor of their own which masks the objectionable odor. Supposedly pine oil should serve in both capacities. It probably retains some disinfectant action and it certainly possesses a powerful and persistent odor capable of masking minor unpleasant odors. Probably the most important advantage of pine oil as an ingredient lies in its solvent properties. It has a solvent action on grease, resins and other oils, which makes it valuable as a cleaning agent. At the same time this very attribute makes its use undesirable in some cases. Asphalt tile is easily and badly deteriorated by contact with pine oil, on which the latter has a dissolving action. If left in contact with a rubber tile floor, it would tend to swell the rubber, causing damage.

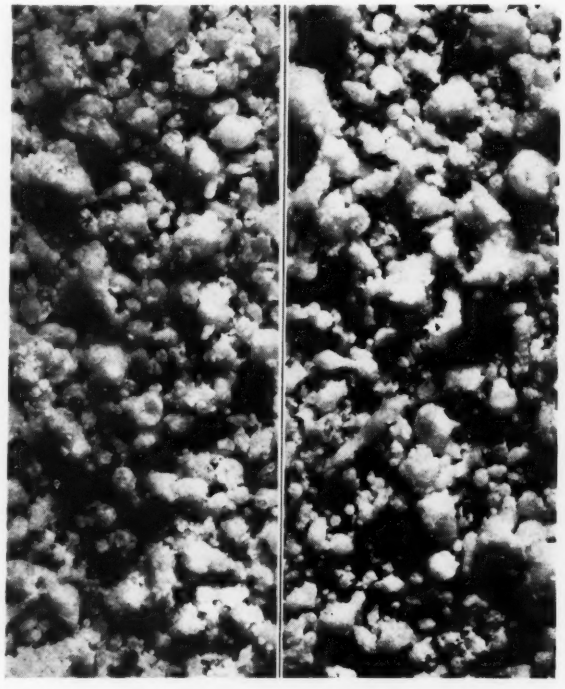
Pine oil increases the viscosity of liquid soap. The greater the amount of pine oil, the more viscous will be the resulting product. A pine oil content over three per cent will usually cause clouding of the soap solution. The oil may therefore be used for bodying, although this was probably not the original intention. To the average consumer, the further a liquid product is from having a watery appearance, the greater its value in his mind. No doubt he thinks he's buying less water, which

Lever's "Rinso" and six of the competing products of Colgate and Procter & Gamble Co.

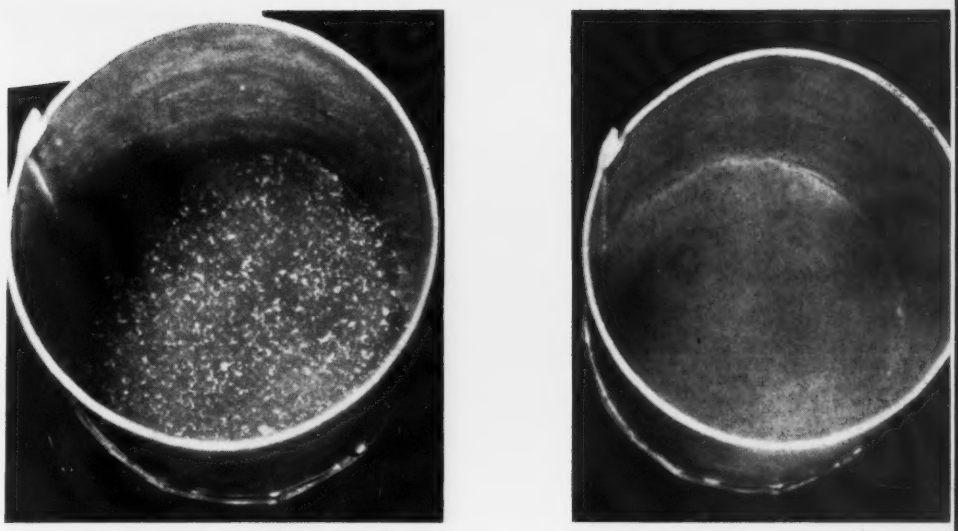
"Lamont says in his specifications that the particular process conditions discovered by him are principally initial air temperatures and soap temperature, meaning of course the temperature of the treating gas or hot air into which the soap is sprayed and the temperature of the soap as it leaves the spray nozzle. His preferred temperatures for spraying soap of a solid content of 60 per cent are, for the soap in the soap line 220° F. to 230° F. and for the drying air 450° F. to 500° F. It should be noted that the soap line temperature as taken by Lamont, corresponds to a soap temperature at the point of discharge from he nozzle of about 250° F. to 260° F. He does not limit the scope of his claims to these temperatures, but strongly recommends them, advising the operator to coordinate these temperatures with other process variables so as to produce the best possible product. He explains that if the temperature of the air into which the soap is sprayed is too low, the particles in the finished product are irregular and distorted, and if the air temperature is too high, they will be disrupted and have the appearance of broken shells. He also claims that spraying at proper air temperature, such as he describes, tends to create steam inside the soap particles.

"THE Lamont patent describes a process which ejects the soap liquid into a current of superheated air flowing concurrently with the spray and in which air current there is substantially no whirling or eddying, so that all sprayed particles of soap contact the drying air at substantially the same temperature, and finally, the product manufactured under the Lamont patent is of such texture that it may be and is taken directly to the bins and is ready for shipment to the trade.

"In addition to the fact that 75 per cent of defendant's soap is sprayed into counter currents in counter distinction to plaintiff's concurrent process, the fact is that 75 per cent of defendant's soap is sprayed into treating gas or hot air at a temperature less than 212° F., whereas, the plaintiffs' specifications call for air temperature of 450° F. to 500° F., and further, the temperature of the soap, sprayed at the nozzle, in defendant's process is not over 200° F., whereas Lamont specifies the equivalent of 250° to 260° F. Plaintiffs claim a product uniform, well rounded and hollow, and free from dust, whereas defendant's product has hard particles and oversized particles of about 20 per cent and dust particles of from 10 per cent to 15 per cent.



"Rinso" (steam blown) on left shows close similarity under microscope to "Rinso" (air blown) Photo from Defendant's Brief.



Solubility Test offered by Lever counsel showed "Rinso" (left) dissimilar to "Super Suds"

"While defendant's product resembles to the casual observer, the product of plaintiffs, it, in many respects, is quite dissimilar."

Eminent legal minds were engaged by both sides in this important patent trial, which might have involved damages running into the tens of millions if Colgate-Palmolive-Peet Co. and Procter & Gamble Co. had been sustained in their claims. Counsel for the defendant included Ramsay Hoguet of New York, Frank Parker Davis, John B. Macauley and C. B. Tinkham of Hammond, Floyd S. Davis, and Leroy C. Shonts of Boston. Appearing for the plaintiffs were former Secretary of War Newton D. Baker of Milwaukee, Marsten Allen of Cincinnati, Arthur C. Denison and Louis Quarles.

The 8 ounce package of "Rinso" bulks much smaller than the 9-oz. package of "Super Suds." "Different product," argued counsel.

SOUTHERN SOAP SALES RISE

Sales of soaps to consumers in the agricultural southeast of United States seem to have shared in the general upturn which sales to this district have experienced over the past two years. Figures just released by the A.A.A. in Washington, show that shipments of soap products from the sixteen northeastern industrial states to ten agricultural states in the southeast increased from a total of 62,278,520 pounds for the year ended June 30, 1933, to 72,338,722 pounds for the year ended June 30, 1934, the increase amounting to 16 per cent. Sales for all industrial and manufactured products showed a somewhat larger increase, the average being 38.8 per cent. Figures for the first year cover the year immediately preceding the operation of the A.A.A., and the second year covers the period when the government's agricultural relief program was in effect.

Solvay Sales Corporation announces the opening of two new branch offices, one at Houston, Texas in the Petroleum Building; the other at Charlotte, N. C., in the Johnston Building. The new branches were established to give better service to customers in the south and southwest. No change in Solvay's present distributing representation in these territories is contemplated and customers' requirements will continue to be handled through present sources of supply as heretofore.

Benton & Bowles, Inc., New York, have been appointed to handle the advertising of "Minit-Rub," a product of Bristol-Myers Co. No decision has been made as to what media will be used.

A passably clean floor in the shortest possible time,—this seems to be the motto of the employe behind the mop. Therefore, floor scrub soaps must do a satisfactory cleaning job under indifferent conditions of use. The ideal product must give maximum detergent action with a minimum of effort.

FLOOR SCRUB SOAPS

By DR. C. A. TYLER

WHEN the terms floor scrub soap, or scrubbing soap are mentioned today, they are interpreted in the soap trade to indicate the heavy, viscous yellow or brown liquid soaps designed solely for cleaning floors. There are innumerable other kinds of floor cleaning products, powders, crystals, emulsions, and pastes, all suitable for various types of work, but for general floor cleaning, the heavy liquid soap is the product most commonly sold today. Although these liquids have a wide variation in composition and quality, according to manufacturer and the price at which they are sold, the standard item is supposed to be a potash linseed oil soap solution of approximately 23 per cent, thickened with about three per cent of pine oil, or some other thickening agent such as potassium carbonate or trisodium phosphate.

Not always is linseed oil used and not always is the soap a straight potash product. Sunflower oil, rapeseed oil, peanut oil, soya bean oil, and even cotton oil foots are used. Sometimes fatty acids make up part of the raw material. In fact, almost any kind of fatty raw material has been known to go into this class of soap product with a consequent variation in quality of wide dimensions. In some instances, the scrub soap is not a potash soap at all, but a soda soap made from red oil. This product gives a heavy viscous soap when in comparatively low dilution. A 12 per cent red oil-soda soap solution looks to the casual and uninformed observer to be just about as thick as the standard 23 per cent potash-linseed soap. However, with only half of the soap content of the standard product, it naturally cannot have the detergent value of the latter. The red oil soap has its chief asset in being able to be sold at a materially lower price.

The manufacture of liquid floor scrub soaps in order to obtain the best results is usually carried on in two stages. The first step is the making up of the soap solution of proper soap content by diluting the concentrated potash soap or other soap with water and boiling it up until solution is complete. This solution is then permitted to stand for several days at ordinary room temperature to permit the settling out of foreign matter. The clear soap solution is then returned to the kettle and the pine oil, carbonate or other alkali is cooked in. This finished product is then permitted to stand again to settle out and clear up before filling into drums.

The liquid floor scrubs on the market at present fall into two general classes,—the clear liquid soap solutions running anywhere from 10 per cent up to 25 per cent soap content, and the emulsion products which contain usually a large proportion of oil or solvent. Of these latter, their uses are generally confined to the cleaning of very greasy or excessively dirty floors such as garages, factories, etc. Some of these emulsion type floor cleaners are in reality typical coal-tar disinfectants, that is, regular potash soap or in some cases rosin-soda mixed with creosote oil, tar acid oil, or similar coal-tar product. These are miscible with kerosene oil in any proportion and in this form will also form good emulsions in water. This permits of the cleansing and emulsifying action of the soap present, plus the solvent action of the kerosene, or other added solvent, and the coal-tar oil.

For the scrubbing of greasy floors where the adverse action of the solvent or added alkali on the floor itself is not important, they are extremely effective cleansers. But where the action on the floor surface must be considered, such as linoleum, rubber, cork composition, etc., the straight scrub soap solution is the product required. Of course, there are also various paste soaps, running 30 to 50 per cent soap content, designed as floor cleaners, but these are of minor importance. Among the powders, there are some specialties stated to be designed solely for floor cleaning. In fact, almost every type of powdered detergent from plain volcanic ash down to ordinary soap powder, finds use somewhere on some kinds of floors for regular cleaning. However, the trend toward the liquid floor scrub, owing to its greater suitability for finer and more delicate floorings, makes it an increasingly important item in the soap specialty field. It is usually sold in three types, (1) pine scrub with 2 or 3 per cent of pine oil, (2) sassafras scrub, without pine and merely perfumed with sassafrassy camphor, and (3) plain without added odor.

Keeping the floors clean in office buildings, hospitals and other large institutions is no simple matter; the problem of what to do it with is left on the doorstep of the detergent manufacturer. There are many types of flooring material to be considered. No one detergent product is suited to clean all of them. Many building

superintendents and janitors place considerable confidence in the use of alkaline salts, with or without soap, which they know will clean. What they do to the floors is another question.

THE purpose of a floor-scrubbing soap is to give good cleansing action under indifferent conditions of use. The product should be such that it will leave the floor looking bright even when it is not thoroughly rinsed. There should be no dull-appearing residue left behind. The individuals who actually use the products are not interested in keeping the floor looking its best, but in keeping it passably clean with the least possible effort, you might say maximum coverage with minimum energy. Since floors are washed in a slip-shod manner, anything that will improve their appearance under these conditions justifies its existence.

Alkaline salts are absolutely barred from products to be used on linoleum and linoleum tile. This is because the alkali will tend to saponify the linseed oil present as an ingredient in such flooring materials, and thus cause deterioration of the floor covering. Solutions of alkaline salts also have a solvent action on paint and varnish and should be used with caution on wood floors. On the other hand products containing grease solvents are apt to attack tiled floorings such as rubber compositions and asphalt.

A number of specialty manufacturers have recognized these difficulties and endeavored to develop compounds believed to be free from any injurious materials. Such products are usually based on potassium soap, which is readily soluble and which gives a good suds in cold water. It is necessary to stick to a low-titre soap to get a good suds in water at room temperature, so that potash vegetable oil soaps are the usual answer. These are slightly superfatted because of the difficulty of exact neutralization. This type is really a carry-over from the old oleic acid soaps used for washing carriages back in the horse-and-buggy days. There seems to be a notion that linseed oil soap is more satisfactory than oleic acid soap. Just what this is based on is not clear; perhaps it is thought that on application, the excess linseed oil will become oxidized by exposure and form a thin protective film. Actually there is never enough free oil present to form a real film. It is claimed that these slightly superfatted soaps will give linoleum a more glossy surface than washing with ordinary neutral soap, and that they tend to prevent streaking.

Soy bean oil is somewhat related to linseed oil in properties in that it has a relatively high iodine number. Apparently for this reason, soy bean oil soaps are also used extensively. Linseed oil was used for the purpose before other vegetable oils were commercially available. It is probable that much of the indicated preference for linseed oil rests on the fact that it was the first to be used. Many people get a fixed idea and stick to it regardless of new developments offering new possibilities.

Triethanolamine soaps may be used in order to avoid alkali from hydrolysis, that is, to give a lower pH in solution. A 2 per cent solution of free triethanolamine gives a pH of 9.6, in contrast to the extreme alkalinity of a solution of the same concentration of caustic soda, which would give a reaction in the neighborhood of pH 14. A dilute solution of triethanolamine soap gives a pH of about 8, which is practical neutrality, while a dilute solution of soda soap gives a pH a little over 10. A solution of triethanolamine soap might therefore be described as very faintly alkaline. Practically speaking, this means it would not injure linoleum or painted surfaces. In considering the effect of the alkalinity of a cleaning solution on a surface, the pH of the diluted solution is a truer measure of potential damage than the value for free alkali.

MOST scrubbing liquids contain pine oil which was probably introduced originally for its disinfectant action. However, the presence of pine oil does not permit one to make the statement that these products are disinfectants. Such a claim would bring them under the jurisdiction of the Food and Drug Act and the actual disinfectant action of the product as recommended for use would have to be given. For example, the manufacturer could not recommend the use of half a pint of his product in a pail of water; he would have to give the exact quantity of each to be used and then express the disinfectant action quantitatively for the final dilution.

Whether or not the amount of pine oil as used in this way is effectual as a disinfectant, it does serve as a deodorant. Deodorants act in either of two ways. They may destroy the microorganisms that give rise to putrefaction of organic matter, that is, remove the cause,—or they may have a more powerful and characteristic odor of their own which masks the objectionable odor. Supposedly pine oil should serve in both capacities. It probably retains some disinfectant action and it certainly possesses a powerful and persistent odor capable of masking minor unpleasant odors. Probably the most important advantage of pine oil as an ingredient lies in its solvent properties. It has a solvent action on grease, resins and other oils, which makes it valuable as a cleaning agent. At the same time this very attribute makes its use undesirable in some cases. Asphalt tile is easily and badly deteriorated by contact with pine oil, on which the latter has a dissolving action. If left in contact with a rubber tile floor, it would tend to swell the rubber, causing damage.

Pine oil increases the viscosity of liquid soap. The greater the amount of pine oil, the more viscous will be the resulting product. A pine oil content over three per cent will usually cause clouding of the soap solution. The oil may therefore be used for bodying, although this was probably not the original intention. To the average consumer, the further a liquid product is from having a watery appearance, the greater its value in his mind. No doubt he thinks he's buying less water, which

may or may not be the case. Of course this does apply to paste soaps, which are simply more concentrated forms of liquid compounds.

All kinds of scrubbing powders are sold, which are mixtures of soap and alkaline salts. These are hardly comparable with the liquid and paste products. The main merit of the powders is their cheapness. The price is proportional to the soap content. The ordinary buyer can't tell anything from the appearance of the product. The object of the manufacturer naturally is to make it as inexpensive as possible. To do this he dissolves soap in water, adds soda ash, and then lets the material crystallize out with as much water as possible. Chilling rolls are used to cause crystallization of the decahydrate with the result that ten molecules of water are obtained with every molecule of soda ash. This increases the weight of the soda ash about 130 per cent over that of the monohydrate, and still gives a dry crystalline product. Powdered compositions sometimes contain abrasives. These are most suitable for use on stone, where a slight residue of abrasive is not objectionable. Powdered products such as have been described are more compatible with marble, terrazzo and stone than they are with varnished wood or with composition floorings.

LIQUID soaps sold for purposes of floor maintenance are clear and yellow to brown in color. A product recommended by the manufacturer for scrubbing linoleum, rubber, tile, and terrazzo floors, and varnished woodwork contains about 13 per cent of potash corn oil soap, 2.5 per cent of pine oil, and the rest water. The soap present is the major cleansing agent, while the pine oil gives the product the clean pine odor and helps to remove grease. The amount of pine oil used here is sufficient to make the liquid highly viscous, so much so that it pours with some difficulty. Although actually the product is an oil-in-water emulsion, since pine oil is not soluble in water, it does not have the milky appearance usually associated with emulsions. This is because the pine oil is so readily emulsified and so finely dispersed that the individual droplets cannot be observed with the naked eye. To all appearances a solution is obtained.

Another liquid soap is described by the manufacturer as being suitable for all types of rigid and resilient floorings. The former would include wood, marble, terrazzo, and the latter linoleum, rubber, cork and mastic. This product contains about 6 per cent of potash-oleic acid soap, 6 per cent of triethanolamine-oleic acid soap, 2 per cent of free triethanolamine, and the balance water. The soap content of this is about the same as in the previous product. Evidently triethanolamine soap is used to give a more nearly neutral soap in dilute solution, making it suitable for use on floorings injured by alkali. Free triethanolamine present reacts with saponifiable matter in the soil to form nascent soap, which is considered to be particularly efficient in detergent action. At the same time it does not increase the alkalinity unduly, as the presence of free caustic alkali would.

A somewhat different type of product, in that it is intended to attack grease primarily, has the following approximate composition: 18 per cent of potash soap, 10 per cent of water, 20 per cent of tar acid oil, and 52 per cent of pine oil. This is recommended for cleaning grease from concrete floors such as found in garages, and for washing truck bodies. The high solvent content in the form of easily emulsifiable oils is to meet the special requirements for which it was intended, that is, a rougher and much more greasy type of cleaning than is normally encountered. For such use the cleaner is left in contact with the soil for some time and then hosed off.

A similar cleaner high in pine oil is used in the same way for greasy floors, motor parts, and other surfaces that collect grease. It is also recommended by the manufacturer as a thorough and non-corrosive cleaner to be diluted with water in the usual way for cleaning marble, terrazzo, etc. The product contains about 13 per cent of soda soap, 10 per cent of water, 10 per cent of tar acid oils, and 67 per cent of pine oil. The product is a dark brown liquid.

A liquid cleaner which is milky in appearance is particularly recommended by the manufacturer for cleaning painted, varnished and lacquered surfaces, and is guaranteed not to injure them. The product has more of a polish-cleaner nature than that of a scrubbing compound. It contains about 60 per cent of kerosene, 5 per cent of triethanolamine soap, and the rest water. The product carries the distinct odor of kerosene.

Mopping powder may be illustrated by a commercial product which is a finely ground, cream colored powder. On close examination, yellow particles of soap are seen to be admixed with white particles of other material. Both alkaline salts and abrasive are mixed with the soap. The approximate composition is as follows: Ground silica, (the abrasive), 27 per cent, soda soap 11 per cent, hydrated soda ash 58 per cent, and trisodium phosphate 4 per cent. This type of product should be efficient for scrubbing floors meant to withstand the action of alkali and the friction of an abrasive. This would apply to rigid floorings other than finished wood, such as cement, terrazzo, stone, etc.

Shampoo Manufacture

A study of modern shampoos,—their manufacture, raw materials, packaging, labelling, and use,—a series of two articles by Ralph H. Auch, well-known contributor to these pages, will be published in the November and December issues of SOAP. Mr. Auch will present a compilation of practical information on shampoos based on long manufacturing and merchandising experience.

New Products

Soap in tubes—a new product of the Anderson & Gordon Laboratory Corp., New York. Intended for use in place of regular cake soap. A handy product for travelers who prefer to choose and use their own brand.

Lustrwax-Best Products Co., Kansas City, Mo., wanted a new package that would be in harmony with their brand name—"Lustrwax." Here it is. Container by Owens-Illinois, cap by Closure Service Corp. A decalcomania label completes the new set up.

A new friction-top container for "All Purpose" cleaner, product of Breinig Bros., Inc., Hoboken, N. J. Larger in diameter than the usual container of this type, the contents are easy to get at. Colors, cream, silver and black. By National Can Co.

and Packages

A new toilet soap designed for dry skins, superfatted with lanolin. The product is being marketed by Wright & Lawrence, one of Chicago's largest strictly ethical druggists. It is wrapped in metal foil.

A new product of the Hewitt Soap Co., Dayton, Ohio. The soap pictured, scented with a pine odor, is the second in a line which includes Potpourri, Rose, Lavender and Gardenia. The green box is covered with transparent cellulose printed in green and red.

A step forward in packaging a liquid insecticide intended for institutional or store use—Midway Chemical's new container for "Xodor," an odorless insect spray. Can by American Can.

Let *us* help you improve your Package

It usually pays to bring a fresh point of view to a packaging problem, particularly if the organization you consult has had much experience in both your own and in other fields.

We are constantly helping manufacturers develop new forms of wrapping. Working with all types of wrapping materials, and with a wide knowledge of modern packaging trends and methods, we have extremely broad scope for developing ideas.

Most important of all, you are assured that the new package will be suited to low-cost machine production.

It is seldom necessary for us to design an entirely new machine for a special form of wrapping. Our machines are sufficiently flexible, and are made in so many different types that we usually have a model which can readily be adapted to your requirements.

Send us your Package

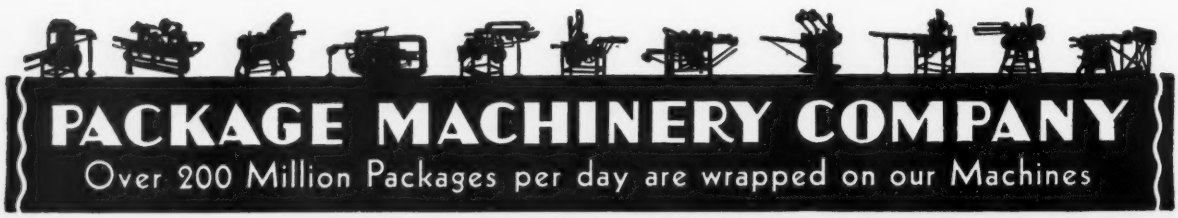
We will submit definite suggestions showing how it can be given better appearance, increased attention value, greater convenience to the user. At the same time, we may be able to show you how your costs can be reduced—package improvement often goes hand-in-hand with new economies.

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASS.

New York - Chicago - Cleveland - Los Angeles
Mexico, D. F., Apartado 2303 - Peterborough, England: Baker Perkins, Ltd. Melbourne, Australia: Baker Perkins Pty., Ltd.

Some of the well-known soap manufacturers who use our machines:

B. T. Babbitt, Inc.
Colgate-Palmolive-Peet Co.
The Cudahy Packing Co.
Gold Dust Corp.
The Andrew Jergens Co.
James S. Kirk & Co.
Kirkman & Son
Lever Bros Co.
Procter & Gamble Co.
Swift & Co.
Allen B. Wrisley Co.



F.T.C. Seeks to Check Loss Leaders

U. S. Federal Trade Commission Takes Over Many Old N. R. A. Functions in Control of Bad Trade Practices

LOSS leaders used deceptively, sales below cost, price discrimination and numerous other practices outlawed by NRA codes—which in turn were outlawed by the Supreme Court of the United States—have been banned by a recent Federal Trade Commission order. The order took the form of a declaration of trade practice rules specifically intended to govern the wholesale tobacco trade, but is equally applicable to the soap trades and all other industries which are interstate in character.

Certain of the rules are not mandatory upon any firm, these being in what is known as Group 2, which comprises the voluntary fair trade practice section; but those in Group 1 are declared to be violation of law, in that they are considered to be unfair methods of competition within the decisions of the Federal Trade Commission and the courts.

Whether an industry elects to unite now in formulating trade practice conference rules under FTC, or prefers to wait and see what Congress will do next year, about reviving certain features of NRA, the members of that industry are still subject to the prohibitions set out in Group 1. If they violate these regulations, they can be proceeded against and, if found guilty, be subject to "cease and desist" orders backed by the enforcement and punitive powers of the Federal Courts. The Schechter decision, which killed NRA, did not outlaw the prohibitions contained in Group 1 rules promulgated by the Federal Trade Commission, but merely said they must be confined to their proper sphere, namely, the field of interstate commerce which the Constitution specifically authorizes Congress to govern.

Business practices which the Trade Commission will continue to seek to control through "cease and desist" orders, include:

1. Use of "loss leaders" to induce the purchase of other merchandise, the sale of which is used to recoup the loss sustained on the "loss leader." This practice, says the F. T. C., has the tendency to mislead purchasers and unfairly diverts trade from competitors.

2. Sales below cost, where made with the intent and effect of injuring a competitor, and where it may substantially lessen competition.

3. Price discrimination between purchasers, whether in the form of discounts, services, or otherwise, contrary to Section 2 of the Clayton Act.

4. For any person or firm to represent himself to be a wholesaler when such is not the case, or to misrepresent the character of his business to mislead purchasers.

5. Misrepresentation or misbranding as to grade, quality, quantity, substance, character, nature, origin, size or preparation of products offered for sale.

6. Imitation of competitors trade marks, trade names, or other marks of identification.

7. Defamation of competitors by falsely imputing dishonorable conduct, inability to perform contracts, questionable credit standing, or other false representations; or false disparagement of the quality of their goods.

8. Secret payment of rebates, refunds, commissions, credits, unearned discounts, or excess allowances, or secretly extending special services or privileges to certain purchasers.

9. Giving or offering to give secret rewards to employes or agents of customers, competitors customers, or prospective customers, to influence them to purchase from the donor.

10. Attempting to induce breach of contracts between customers and competitors, by false or deceptive means; or interfering with the performance of contractual duties, to embarrass competitors.

11. Circulation of threats of suit for infringement of patents or trade marks among a competitor's trade, to intimidate such customers.

12. Circulation of misleading price quotations, price lists or terms of sale.

13. Coercing purchase of one or more products as a pre-requisite to purchase of other products.

14. Withholding from or inserting in an invoice, facts which make the invoice a false record.

Under Group 2 are voluntary agreements to wipe out such misrepresentations as advertising commodities for sale at an extremely low price when the quantity on hand is not sufficient to meet the expected demand; selling at wholesale and retail in the same establishments and failing to differentiate between the two types of transaction, where the result may be confusion and deception in the mind of the purchaser; and evasion of state taxes through interstate transaction.

—♦—

The American Management Association will hold its Sixth Packaging Exposition March 3 to 6, 1936, at the Hotel Pennsylvania in New York, according to an announcement by Alvin E. Dodd, executive vice-president of the sponsoring organization. The exposition is being held in New York for the first time since 1934, the 1935 show having been held in Chicago.

—♦—

A recent Belgian law exempts common soaps as well as olive, peanut, corn and sesame oils from the 2.5 per cent transmission tax.

START LEVER-EAVENSON TRIAL

Trial was scheduled to start during the week of October 7th in the Supreme Court of New York in the action of Lever Bros. Co. against J. Eavenson & Sons, Camden, N. J., charging unfair competition. Lever Bros. are seeking to restrain Eavenson from manufacturing any soap which might be considered confusing in the trade with Lever's "Life Buoy."

—— ♦ ——

Members of the Oil Trades Association of New York turned out in force last month for the final golf tournament of the season which was held at the Pelham Country Club, Pelham, N. Y.

—— ♦ ——

Marcus H. Smith, publisher of *Soap, Perfumery and Cosmetics*, London business publication for the soap and cosmetic industries, arrived in the United States early this month for a five weeks' visit.

The Toilet Goods Association plans shortly to bring out a new volume listing registered and unregistered trademarks in the toilet goods field, bringing up to date the work started a number of years ago by the A. M. T. A. All the data contained in the former books and supplements will be included in the new compendium, as well as marks which have come into use over the past few years which have not as yet been recorded by the association. Active members of the Toilet Goods Association will receive the new book free, and others may obtain copies at $25 each.

—— ♦ ——

The compensatory tax passed at the last session of Congress on imports into United States of products manufactured wholly or chiefly from taxable oils, went into effect September 30. Shipments entered or withdrawn from customs bonds after that date are liable to the levy, which will apply on the quantity of the following crude materials used in the production of manufactured products: Whale oil (except sperm oil), fish oil (except cod oil, cod-liver oil and halibut oil), marine animal oil, sesame oil, palm oil, palm kernel oil, sunflower oil and coconut oil.

—— ♦ ——

Colgate-Palmolive-Peet Co., Jersey City, is now publishing a bi-weekly magazine, "The Profit Maker," as a merchandising aid to retail merchants. Contents include advice on other products as well as those of Colgate-Palmolive-Peet.

—— ♦ ——

Richard Henry Wald, formerly head of Louis Wald & Co., soap manufacturers, Cincinnati, and since his retirement, secretary and treasurer of the company, died Sept. 27, in Cincinnati.

—— ♦ ——

The business of Holman Soap Company, one of the oldest of Chicago soapers, is being liquidated following failure to gain approval for the reorganization plan filed under 77-B on April 3rd of this year.

Chicago Trade Notes

GOLFERS of the Allied Drug and Cosmetic Association of Michigan again proved themselves better than members of the Golf Auxiliary of Chicago in the return meet, held September 18th at the Meadow Brook Country Club, Detroit. Although beaten by the close score of 15-13, the thirty-five Chicago golfers that attended reported the affair a big success.

—— ♦ ——

The first meeting of the fall season of the Chicago Perfumery, Soap and Extract Association was held October 1st at the Hamilton Club. A good turnout was on hand to hear reports by the various committee heads on their activities during the summer. John S. Hall, attorney for the association, gave a detailed report as to the status of legislative matters having a bearing on the industry and what the members could expect along that line during the coming year.

—— ♦ ——

The Chicago Drug and Chemical Association met for the first time since last May on September 27 at the Chicago Athletic Association. A large attendance heard an interesting talk by Major Norman A. Imrie on the subject, "What America Needs Today."

—— ♦ ——

Louis Bufford, employed at Armour Soap Works, died last month in the John B. Murphy hospital as a result of burns suffered when he was accidentally showered with boiling liquid soap.

—— ♦ ——

The Affiliated Sanitary Supply Distributors Association of Chicago held elections last month. Frank Vorda, Wholesale Janitors Supply Company, and Roy Wilson, Ludwig Wilson Company were reelected president and secretary respectively. An interesting plan has been adopted whereby members can compare the progress of their company with others in the field. At the start of each meeting the members present turn in a report showing the percentage of gain or loss in their business as compared with the previous month and also the percentage for the accumulated months of the year compared with the corresponding period of the previous year. The companies' names do not appear on the reports. These figures are averaged and announced at the meeting.

—— ♦ ——

Mrs. Myrtle S. Bennett, president and founder of Wilson & Bennett Manufacturing Company, died September 23rd following a five weeks illness. Mrs. Bennett organized the company in 1909 and watched the organization grow into one of the largest of its kind in the world with factories in Chicago, Jersey City and New Orleans. Mrs. Bennett is survived by S. A. Bennett and J. C. Bennett who have been the active heads of the business during recent years.

Pacific Coast Notes

AT the 3rd Annual Pacific Coast Packaging Exhibit, held in San Diego recently, the following cosmetic manufacturers were awarded trophies: honorable mention to L. B. Laboratories of Los Angeles, for their "Norsemen Liniment", Cosmetics, Inc., of Sunset Blvd. for their family group "Luminous of Hollywood", and Castilian Products Corp. of Hollywood, for their "Hollywood Girl" line.

♦

The manufacturing activities of J. B. Northcutt, manufacturing chemist, are now housed in the new building of the Merle Norman organization, in Santa Monica. A total floor space of over 10,000 feet is devoted exclusively to cosmetic manufacturing.

♦

Western State Sales Co. has announced removal to larger quarters at 4151 South Main St., Los Angeles.

♦

Dr. Frascatti of Max Factor, Albert Albek of Albert Albek, Inc., and Lyle Rucker have returned from a five-day hunting trip in the Sierras.

♦

Charles Wood, of Perfection Laboratories, Seattle, Washington, announces that he has perfected a new dance wax that can be used on concrete floors.

♦

Great Western Laboratories, shampoos, have moved into larger quarters at 5615 Melrose Ave., Hollywood. Their most recent development is a new hair grower, which they call "Hair-Life".

♦

Ex-Cel-Cis Beauty Products Co., Salt Lake City, has just introduced a new line of cosmetics.

♦

Charles N. Berman, of Los Angeles, died recently at the Cedars of Lebanon Hospital, following an operation. Mr. Berman was general manager of the Southern California Disinfecting Co.

♦

Tip-Top Laboratories of Chicago, have opened a San Francisco manufacturing branch at 676 Mission St., to take care of their western trade. The laboratory will be in charge of J. M. Kerstein.

♦

Anatol Valaire has opened studios and laboratories at 1711 North Vine St., Hollywood, specializing in private label work.

♦

Paul Fourman and his son Paul, Jr. have been transferred from the Los Angeles office to the new San Francisco branch of the Florasynth Laboratories, Inc., whose main office is in New York. The Los Angeles office will continue under the personal direction of Dr. Alexander Katz, who will be assisted by Charles J. Horney.

STUDY CLEVELAND SOAP OUTLETS

Independent grocery stores are shown to be gaining back an increasing share of business from the chains in a survey just completed in the Cleveland district by the *Cleveland Press*. Cleveland grocery business for June, 1935, showed independents getting 32.4 per cent as against 67.6 per cent for the chains. In June, 1932, the share of the independents was only 27.4 per cent as compared with 72.6 per cent for the chains.

The survey showed that grocery stores encounter strong competition from drug and department stores on toilet soaps, but yield little business on laundry bars, chips, flakes and powders. In the toilet soap group the Fisher chain was the point of purchase in 21.8 per cent of the cases, A & P 16.7 per cent, Krogers 7.5 per cent, Edwards 4.5 per cent, United 2.7 per cent, independents 16.2 per cent, department stores 16 per cent, drug stores 4 per cent, five and tens 1.3 per cent, and others 9.3 per cent. "Ivory" was first in popularity, followed by "Palmolive", "Life Buoy", "Lux", "Camay", "Woodburys", "Sweetheart", "Kirk's Castile", "Halle's," "May Co.", "Fairy", "Lava", "McNess", "Olive-I-Lo", "Colgate's Big Bath", "Baby Doll", and "Cuticura". "Lux", in fourth place this year, led the field in 1933. "Palmolive", on the other hand, leaped from fourth to second place. An average of 6.75 bars of toilet soap were found on hand for every family.

Contrary to the close competition in the toilet soap field, "Fels Naptha" ranked alone in the laundry bar business accounting for nearly one-half of the volume, followed by "P & G", "Werks Tag", "Ivory", and "Octagon". A similar situation exists in the scouring powder bracket where "Sunbrite" does 45.8 per cent of the business. Even more emphatic is the dominance of two brands in the laundry powder group where "Rinso" and "Oxydol" together account for 84.3 per cent of the entire sales. Business is more divided in the chips, flakes and granules class, but "Chipso" retains a heavy lead.

♦

E. R. Squibb & Sons, New York, have begun a new radio broadcast program, "To Arms for Peace," consisting of music, speeches and entertainment. As a tie-in with sales the company is giving 1c from each purchase of a Squibb product to support the work being done by World Peaceways in promoting the peace of the world.

♦

Hewitt Soap Co., Dayton, Ohio, has recently completed extensive work in remodeling and refurnishing the general business and executive offices of the company.

♦

Vaniva Products Co., maker of "Vaniva" shaving cream, has established New York executive and sales offices at 299 Madison Ave. Harold K. Hughes, vice-president of the concern, will act as director of sales.

♦

Plans are rapidly being completed for the 15th Exposition of Chemical Industry, to be held December 2 to 7, 1935, at the Grand Central Palace, New York.

PERSONAL AND IMPERSONAL

A. E. Davison, Jr., has resigned from McCann-Erickson, Inc., New York, to become vice-president and general manager of the Bon Ami Company, New York. E. O. Perrin, a vice-president of McCann-Erickson, Inc., has been appointed to direct the agency's work on the Bon Ami account.

H. W. Remington, director in charge of the foreign department of Colgate-Palmolive-Peet Co., who has just returned from a business trip around the world, reports that his company's business has shown a substantial increase in all its foreign markets. The company distributes products in seventy-two countries. Mr. Remington, who keeps travelling on company business almost continually, will leave shortly on another foreign trip.

The supply of electricity to Port Sunlight, Lever Brothers' great industrial and garden city estate on the River Mersey, England, is shortly to be undertaken by the British Central Electricity Board. By the terms of an agreement just completed Lever Brothers will no longer maintain their own private generating station.

The former plant of the Pennsylvania Soap Company, Lancaster, Pa. has been sold to a southern tobacco concern and all of the machinery has been disposed of at a private sale. The plant and equipment were both owned by the Conestoga National Bank of Lancaster. No soap had been made in the factory for several years past.

R. L. Colter has recently given up his position with Frederick Stearns & Co., Detroit, where he has been for the past twenty-seven years, serving in various capacities —as manager of the claims department, credit man, perfumer and package designer.

Nu-Blu Manufacturing Co., Seattle, Wash., maker of "Nu-Blu" cleaner, is conducting a sales campaign on this product in the Seattle territory featuring a slogan contest. Cash awards are being made each week for the best slogans submitted by users of the product.

The index of employment in the soap industry registered 97.7 for August, 1935, as compared with 99.3 in July and 98.6 in August, 1934. The payroll index stood at 93.6 for August, 1935, as compared with 94.4 in July and 86.1 in August, 1934.

Lehigh Whitehall Soap Co. has recently taken over Best Chemical Co., of Allentown, Pa.

Minnesota Chemical Co., Minnesota Transfer, Minn., soaps, cleansers and laundry and dry cleaners supplies, is currently celebrating the twentieth anniversary of formation of the company.

The Republic of Haiti has just placed an excise tax of 0.03 gourde per net kilo on domestically produced soap and a tax of 0.10 gourde per net kilo on vegetable oils and lard substitutes. Imported products are not affected.

Members of the Foragers organization heard radio broadcasts of the World Series baseball games at their New York club rooms early this month. Attendance at the daily luncheon gatherings showed a decided pick-up during the series.

With distribution work well under way on a line of toilet goods articles for men, Corcoran, Inc., New York, will soon start consumer advertising. Sold under the family trade-name of "Top Flite," the line includes a shaving cream, and brushless shave, deodorant, talc and hair dressing. John Orr Young, who at one time headed Young & Rubicam, Inc., is head of the John Orr Products Company, which owns a controlling interest in Corcoran, Inc. The campaign is being handled by Alfred J. Silberstein, Inc., New York advertising agency.

According to a recent report from the Island of Jamaica, the production of soap in Jamaica has increased so rapidly during the past few years that the sale of imported soaps has been seriously affected. The several new factories which have been opened in Jamaica last year consumed all of the island's copra production.

"Calox" tooth powder, a product of McKesson & Robbins, Bridgeport, Conn., is now being packed in a new container having a new helmet-type dispensing top.

Ridgeway Co., St. Louis advertising agency, has been named to direct advertising on "Blue Monday" household cleaner.

A radio broadcast program featuring cosmetic products of the House of Pinaud was inaugurated last month over the Mutual Network.

Haskins Bros. & Co., Omaha, are introducing "Trilby" —a new and improved bath soap.

Colgate-Palmolive-Peet Co. is planning to bring out eight special Christmas gift boxes for the 1936 holiday sales season, according to Manning O'Connor, manager of the toilet article department of the company. The boxes include the "Colgate", "Palmolive" and "Cashmere Bouquet" lines of the company, with three retailing at fifty cents and five in the one dollar class. They are priced so that the combination purchase costs less than buying each item individually. Large sales resulted from marketing Christmas gift boxes last year.

Unfair representation in advertising its soap, lotion and ointment will be discontinued by E. W. Rose Company, of Cleveland, under a stipulation entered into with the Federal Trade Commission. The Cleveland concern agrees to stop representing that any of its products or a combination thereof comprises a competent treatment for eczema or similar ailments or that any one of its products will of itself heal any ailment or do more than promote healing.

Welch Sales Company, Station C, Atlanta, Georgia, manufacturers and distributors of household specialties, are interested in locating the manufacturers of the following toilet soaps, "Favorite", "La-Mar-Vel", "Lucky Strike", also "Camels" Lather Shave Cream, and "D.D.S." Tooth Paste.

Netherland India, by government decree, has established quotas restricting imports of soap into Netherland India during the ten month period, August 10, 1935, to June 9, 1936, to 850,000 gross kilos of toilet soap and 2,000,000 gross kilos of all other soaps.

The New York office of Hewitt Soap Co., Dayton, Ohio, has recently put into operation a new designing and art department under the direction of Miss J. O. Probasco, who has done much work of this nature for such concerns as Royal Pioneer Paper Box Co., Leeds Silk Hosiery Co., Artcraft Silk Hosiery, Altman's and others. One of her first designing jobs for Hewitt was done on their new "Futura" line.

Colgate-Palmolive-Peet Co. is currently offering a special deal in the Oklahoma City market, giving a box of "Super Suds" free with five giant bars of "Crystal White" soap, or with ten bars of regular size.

Lee S. Hancock has been made retail representative for "Silver Dust" in Oklahoma City. A. M. Wigdahl, Tulsa, will act in the same capacity in the eastern part of the state.

Western Co., Chicago, maker of "Dr. West's" tooth paste, has recently changed the name of the company to Weco Products Co.

Swift & Co. recently enlarged its cottonseed oil plant in Montgomery, Ala.

ALLOW REGISTRATION OF "QUIX"

Registration of "Quix" by Ira W. Royer, Canton, Ohio, as a trademark for a water softener has been allowed in a recent decision by Richard Spencer, 1st assistant commissioner of patents in the U. S. Patent Office. Registration had been opposed by Colgate-Palmolive-Peet Co., holders of the mark "Kwix" for soap and soap powder, but the commissioner ruled that since Colgate has not used this mark since 1928 it cannot restrain Royer from registering his similar mark. The Colgate opposition was first upheld by the examiner, but on appeal his decision was overruled by the commissioner. The company of course still has the right of further appeal to the U. S. Court of Customs and Patent Appeals. The commissioner ruled that "Kwixsolv", a name which Colgate-Palmolive-Peet Co. does use, is not likely to be confused with "Quix".

STERLING REPLIES TO F. T. C.

Sterling Products, Inc., New York, has filed a reply to the recent citation made by the U. S. Federal Trade Commission, denying that its acquisition of the capital stock of R. L. Watkins Co. has created any tendency to monopoly. Dr. W. E. Weiss, chairman of the board of Sterling Products, states in his reply to the Federal Trade Commission that the products of the two companies are not competitive, nor were they previous to the stock transaction. The products referred to include "Dr. Lyon's" tooth powder, "Phillips' Dental Magnesia", "Danderine" and "Glostora". In another part of the Sterling reply Dr. Weiss denies that Sterling Products directly maintains any plants for manufacturing or warehousing as alleged in the complaint.

Fritzsche Bros., Inc., essential oils and aromatics, completed removal of their offices from 78 Beekman St. to the Port Authority Commerce Building at 76 Ninth Ave., New York, last month, and by October 1 were operating under normal conditions at the new address. The firm had been at the old location for years, dating far back into the period when practically every essential oil firm in the city was centered in the Beekman and Cliff Street district. The Fritzsche quarters were partially destroyed by fire about a year ago.

The fourth annual drug trades exposition will be held in the Grand Central Palace, New York, October 15, 16 and 17, under the sponsorship of the Drug Salesmen's Association of New York. Among the exhibitors will be Bristol-Myers Co., Conti Products Corp., Lockwood-Brackett Co. and Mennen Co.

Colloidal Laboratories, Inc., Cleansers, New York, has moved from 122 East 42nd Street to new headquarters in the R.C.A. Building, 30 Rockefeller Plaza.

Hydrogenation Products Corp. has been organized in Newark, N. J. by H. T. Sarg to manufacture chemicals.

RECORD OF TRADE-MARKS

The following trade-marks were published in the September issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

TRADE MARKS FILED

NEUTROTEN—This in solid letters describing rug cleaning compound. Filed by V. M. Kalusdian, New York. July 5, 1934. Claims use since April 23, 1934.

HAPPY CHIN—This in solid letters describing shaving cream. Filed by Happy Chin Co., Chicago, July 12, 1934. Claims use since June 11, 1934.

PICK-IT—This in solid letters describing cleaning and washing powder. Filed by Pick-it Products Co., New York, May 8, 1935. Claims use since Nov. 1, 1934.

NU-BALL—This in solid letters describing cleaner. Filed by Mid West Laboratories, Des Moines, Iowa, May 13, 1935. Claims use since Nov., 1934.

C-I-C—This in broken letters describing polish and cleaner. Filed by Rose Products Co., Cicero, Ill., June 3, 1935. Claims use since May 1, 1930.

SUN-RAYED—This in solid letters against sun-burst background, describing soaps. Filed by A. D. Bowman, St. Paul, Minn., June 5, 1935. Claims use since Jan. 1, 1928.

VANISOPE—This in solid letters describing soap powder. Filed by Vanisope Co., Cincinnati, June 6, 1935. Claims use since Sept. 20, 1934.

TROMETE—This in solid letters describing cleaning compound. Filed by Westvaco Chlorine Products, Inc., New York, June 8, 1935. Claims use since Nov. 13, 1924.

PERFECT—This in solid letters describing soaps. Filed by Haskins Bros. & Co., Omaha, June 26, 1935. Claims use since 1888.

LA GRACE—This in solid letters describing soaps. Filed by Lightfoot Schultz Co., New York, July 16, 1935. Claims use since 1921.

PUROFANE—This in solid letters describing cleaning preparation. Filed by Pure Oil Co., Chicago, July 16, 1935. Claims use since Jan. 14, 1935.

STERIPHONE—This in solid letters describing germicide. Filed by Low Chemical Co., New York, June 12, 1935. Claims use since April 17, 1935.

DEROCIDE—This in solid letters describing insecticide. Filed by McConnon & Co., Winona, Minn., July 8, 1935. Claims use since Mar. 14, 1935.

AP Co—This with diamond shaped border describing antiseptic and germicide. Filed by Ampere Products Co., West Orange, N. J., July 16, 1935. Claims use since July 8, 1926.

PASCO—This in outline letters describing cleansing compound. Filed by Fargason Co., Evansville, Ind., Mar. 30, 1935. Claims use since 1905.

SIL-VER-ENE—This in solid letters describing silver polish. Filed by Lane Laboratories, Camden, Maine, May 7, 1935. Claims use since Feb. 9, 1935.

SUNWASH—This in solid letters with sun in background describing soap. Filed by Sunwash Process Co., Detroit, May 20, 1935. Claims use since December, 1933.

NU-MATIC—This in solid letters describing hat cleaner. Filed by Robt. Britigan Corp., Chicago, June 10, 1935. Claims use since May 25, 1934.

GETZIT—This in outline letters describing cleansing compound. Filed by Getzit Sales Co., New York, June 20, 1935. Claims use since June 14, 1935.

VELVET SHAVE—This in solid letters describing brushless shave. Filed by Velvet Shave Co., Brooklyn, June 20, 1935. Claims use since April 23, 1934.

BOWL-GLO—This in solid letters describing cleaning compound. Filed by Wambaugh Chemical Co., Goshen, Ind., June 28, 1935. Claims use since Dec. 15, 1934.

NOVEL-WASH—This in solid letters describing washing fluid. Filed by Novel Wash Co., St. Louis, July 2, 1935. Claims use since May 27, 1929.

CHIC-EE—This in solid letters describing hat block cleaner. Filed by Martin M. Hess, Baltimore, July 6, 1935. Claims use since June 10, 1935.

B—This solid letter within square describing insecticide, cattle spray, stock dip, etc. Filed by Barnsdall Oil Co., Tulsa, Okla., April 1, 1935. Claims use since Oct. 1, 1931.

DR. KYLE'S—This in solid letters on carton describing tooth paste. Filed by Sheffield Co., New York, April 20, 1935. Claims use since April 6, 1935.

MAKINS—This in outline letters describing antiseptic and bleach. Filed by Sinclair Mfg. Co., Toledo, Ohio, April 24, 1935. Claims use since April 16, 1935.

SUNWASH—This in solid letters describing water softener. Filed by Sunwash Process Co., Detroit, May 20, 1935. Claims use since August, 1931.

CA-MI—This in outline letters describing bed bug exterminator. Filed by Carl Michael, Pittsburgh, May 28, 1935. Claims use since Jan. 10, 1933.

ADAMS—This in outline letters on diamond shaped background describing disinfectants. Filed by V. P. Adams, Inc., Jamaica, L. I., N. Y., June 17, 1935. Claims use since May 22, 1935.

SOL KLEAN—This in solid letters describing chemical cleaner. Filed by Industrial Chemical Products Co., Detroit, June 20, 1935. Claims use since 1930.

CREZEMA—This on diamond shaped reverse plate describing antiseptic cream. Filed by K R C Laboratories, Johnstown, Pa., June 19, 1935. Claims use since Mar. 26, 1934.

MOTHEX—This in solid letters describing insecticides. Filed by Roseth Corp., Brooklyn, June 22, 1935. Claims use since 1925.

SPRCO—This in solid letters describing boiler compound. Filed by San Pedro Rubber & Supply Co., Wilmington, Cal., June 22, 1935. Claims use since April, 1934.

OAKITE—This in solid letters describing cleaner and water softener. Filed by Oakite Products, Inc., New York, July 6, 1935. Claims use since Feb. 2, 1909.

DALARE ASSOCIATES—This in solid letters describing antiseptic and germicide. Filed by Dalare Associates, Phila., July 18, 1935. Claims use since May 1, 1935.

MIRAC-O—This in solid letters describing cleanser and shaving cream. Filed by Mirac-O Cleansing Co., Hillsboro, Kansas, Mar. 25, 1935. Claims use since Mar. 8, 1935.

MAGIC ACTION—This in solid letters describing cleaning powder. Filed by Charles Baron, Passaic, N. J., April 15, 1935. Claims use since April, 1929.

SKOUT—This in dotted letters describing soap. Filed by Skat Co., Hartford, Conn., June 7, 1935. Claims use since May, 1922.

NULENE—This in solid letters describing cleaning compound. Filed by Nulene Co., New York, July 10, 1935. Claims use since Sept. 9, 1932.

DIXIE WHITE—This in solid letters describing shoe polish. Filed by Dixie Products Co., Dallas, Tex., July 13, 1935. Claims use since May 1, 1933.

TICK—This in solid letters describing cleaning powder. Filed by Derris, Inc., New York, July 15, 1935. Claims use since July 8, 1935.

MAJOR—This in solid letters with sketch of drum major describing shoe polish. Filed by Morrison Atlas Products, Inc., Chicago, July 25, 1935. Claims use since July 5, 1935.

MAYFAIR—This in solid letters describing liquid shoe cleanser. Filed by Robt. Lawrence Corp., New York, July 26, 1935. Claims use since May 6, 1935.

DENTRAY—This in solid letters describing tooth powders. Filed by Dentray Co., New York, May 24, 1935. Claims use since Feb. 2, 1935.

ROCKSALL—This in solid letters describing water softener. Filed by Rocksall Chemical Co., New York, June 12, 1935. Claims use since May 1, 1935.

SHAMP-PINE—This in solid letters describing shampoo soap. Filed by Sham-Pine, Inc., Indianapolis, June 20, 1935. Claims use since June 1, 1934.

GEMS—This in solid letters on carton describing washing compound. Filed by Gem Products Sales Co., Camden, N. J., July 9, 1935. Claims use since July 3, 1933.

ROSS—This on circular reverse plate on crossbar describing soap. Filed by Sydney Ross Co., Newark, N. J., July 24, 1935. Claims use since July 12, 1935.

EDSO—This in solid letters describing cleaning powder. Filed by Edso Laboratories, Washington, D. C., Aug. 5, 1935. Claims use since Feb. 1, 1934.

DESIGN OF FLY on bull's eye describing insecticide. Filed by Johnson Oil Refining Co., Chicago, April 22, 1935. Claims use since Aug. 23, 1932.

GERM-I-TABS—This in solid letters describing antiseptic. Filed by American Drug & Chemical Co., Minneapolis, July 15, 1935. Claims use since July 12, 1935.

FORMACIDE—This in solid letters for insecticides. Filed by The Hammond Paint & Chemical Co., Beacon, N. Y., July 22, 1935. Claims use since Dec. 1, 1933.

ODO-REND—This on semi-circular reverse plate describing deodorants and disinfectants. Filed by Shamel Corp., New York. Claims use since July 10, 1935.

PERMA-LUSTRE—This in solid letters describing automobile polish. Filed by Perma-Lustre Laboratories, Inc., Portland, Oreg. June 20, 1935. Claims use since September, 1933.

ORANGE BLOSSOM—This in solid letters describing toilet soap. Filed by Castilian Products Corp., Los Angeles, June 20, 1935. Claims use since June 7, 1934.

TRADE MARKS GRANTED

327,866. Furniture Polish. Three In One Oil Co., New York. Filed April 16, 1935. Serial No. 363,834. Published July 2, 1935. Class 16.

327,871. Germicide. Curaderm Laboratories, New York. Filed April 18, 1935. Serial No. 363,923. Published July 2, 1935. Class 6.

327,872. Rat and Mouse Exterminant and Insecticide. Hacker Products Corp., Brooklyn. Filed April 19, 1935. Serial No. 363,972. Published July 2, 1935. Class 6.

327,929. Automobile and Furniture Polish. Daltonite Paint Products Co., Philadelphia. Filed April 11, 1935. Serial No. 363,623. Published July 2, 1935. Class 16.

327,990. Liquid Wax Polish. Johnson Oil Refining Co., Chicago. Filed June 15, 1934. Serial No. 352,741. Published July 2, 1935. Class 16.

328,020. Dentifrices. Medica-Dent Manufacturing Co., Seattle. Filed December 28, 1934. Serial No. 359,722. Published July 2, 1935. Class 6.

328,033. Deodorant, Disinfectant, Insecticide, and Germicide. Superior Home Products Co., Pittsfield, Mass. Filed October 26, 1934. Serial No. 357,562. Published July 2, 1935. Class 6.

(*Turn to Page* 117)

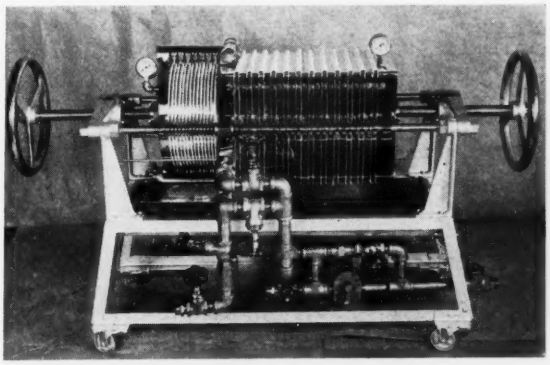
Solvent Soaps

Are chlorinated solvents suitable for use with present-day dry cleaning soaps, and similar soaps? How can the shortcomings of the soaps be overcome? A discussion of this subject which originated in England will be conducted by an American authority in an early issue of SOAP. Don't miss this issue.

New Equipment and Bulletins

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

163. Ertel Engineering Corp., New York, has applied for a patent on a new three-way multiple filter which they say combines the functions of three machines in a single unit. It is composed of a pre-filter and a disk filter. The pre-filter can be used as a pre-filter alone; the disk filter can be used as a polishing filter alone; or the filters can be used as a combination. It is



claimed that use of the new filter reduces filtration costs substantially by reducing consumption of the asbestos filter sheets. Costs of reloading the pre-filter are said to be negligible. All valves and parts are said to be easily accessible and the pump is so constructed that it may be used as a transfer pump when not employed for filtering. The filter is built in various sizes to suit various capacities. It is mounted on castors and may readily be transported to various parts of the plant.

164. Policyholders Service Bureau of Metropolitan Life Insurance Co. is distributing a new report based on a survey just made studying cost and operation of business automobiles. The study presents the findings of a survey of practices of 53 companies engaged in a variety of enterprises throughout the country. It considers such subjects as: Should the company or the employee own the car? In what form should reimbursement for expenses be made? What are some of the predominating policies with relation to financing new cars, insurance, trade-ins, personal use of cars?

165. Davies-Young Soap Co., Dayton, Ohio, has issued a new bulk price list giving current quotations on oils, soaps, floor soaps, toilet soaps, floor waxes, soap bases, surgical soaps, etc.

166. Franklin Research Co., Philadelphia, is mailing a folder which gives the results of a study made by them on current popular types of floor finishes and their relation to the hazard of slipping. The bulletin lists the coefficients of friction for each type of floor finish and gives some interesting information on causes of falling.

167. Flour City Brush Co., Minneapolis, is distributing a new catalog listing and illustrating its complete line of brushes for all purposes. The company makes mopping tanks, mop presses, mop pails and wax applicators, as well as brushes.

168. Fumeral Co., Racine, Wis., is adding a new item of equipment to its line—a specially designed portable insecticide diffusing unit. The standard "Fumeral" equipment consists of permanent stationary installations. The new portable unit is supplied for use where no steam or air pressure is available.

169. Fay Co., New York, has prepared a folder describing its new "Royal Model" electric floor machine. Copies are available.

170. Pennsylvania Pump & Compressor Co., Easton, Pa., has issued two new bulletins, No. 166 and No. 224, describing the company's roller bearing type vacuum pumps and sleeve bearing centrifugal pumps.

171. Lammert & Mann Co., Chicago, is introducing a new-type control or shut-off valve which is said to be the simplest one, with the fewest parts, ever developed. A press release describing the new equipment is available.

New Patents

Conducted by

Lancaster, Allwine & Rommel

Registered Attorneys

PATENT AND TRADE-MARK CAUSES

815 15th St., N. W., Washington, D. C.

Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine and Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 2,010,038, Cleaning Fluid, Patented August 6, 1935 by William E. Sharp, Chicago, Ill.; Minnie E. Sharp executrix of the estate of said William E. Sharp, deceased. A dry cleaning agent consisting of 15 to 85% of carbon tetrachloride mixed with 85 to 15% of a trichlorpropane.

No. 2,010,443, Disinfecting and Insecticidal Agent, Patented August 6, 1935 by Robert L. Sibley, Nitro, W. Va., assignor to The Rubber Service Laboratories Company, Akron, Ohio. An insecticide comprising an alkali metal or alkaline earth metal salt of a sulfuric acid derivative of the reaction product of an alcohol containing more than two but less than seventeen carbon atoms and a hydroxy substituted diaryl containing more than eleven

(*Turn to Page* 99)

CONTRACTS AWARDED

Crystal Soap & Chemical Co., Philadelphia, has been awarded a contract covering 1,000 cakes stove polish for the U. S. Quartermaster at Jeffersonville, Ind., at a price of 5.9c per cake. Colgate-Palmolive-Peet Co. awarded 7,000 lbs. laundry soap at 3.7c lb. Globe Chemical Co., Cincinnati, awarded 3,490 lbs. trisodium phosphate at $3.52 per cwt.

♦

John Sexton & Co., Chicago, have recently been awarded a contract covering a quantity of grit soap for the St. Louis U. S. Army quartermaster at a price of 2.39c. Procter & Gamble Distributing Co., St. Louis, awarded quantity of laundry soap at 3.63c. Champion Chemical Works, Chicago, awarded quantity of caustic soda at 5.42c.

♦

Hunnewell Soap Co., Cincinnati, has been awarded a contract covering a quantity of grit soap for the St. Louis U. S. Army quartermaster at a price of 2.5c. Samuel M. Sher, Chicago Heights, Ill., awarded laundry soap contract at 3.81c.

♦

Colgate-Palmolive-Peet Co., Jersey City, was the successful bidder on the soap requirements of the Jeffersonville, Ind., U. S. Army quartermaster in a recent bidding, with a quotation of 3.98c per pound on 7,200 lbs. laundry soap in 1-lb. cakes and 3.85c on 40,620 lbs. of the same.

♦

Conray Products Co., New York, was low bidder on 8,050 lbs. chip soap for the U. S. Marine Corps, Washington, D. C., in a recent bidding, with a quotation of 7.43c. No bids were received on item 2 in the opening—calling for olive oil soap.

♦

The Brooklyn medical department has recently awarded a contract to Harley Soap Co., Philadelphia, covering 2,000 drums liquor cresolis compositus at $3.47.

♦

Royster Products Co., Washington, was low bidder on four drums of insecticide for the City Engineer at Jacksonville, Fla., with a quotation of 56c per gal.

♦

Colgate-Palmolive-Peet Co., Jersey City, was low bidder on 1,000 lbs. grit soap for U. S. Post Office Department, Washington, D. C., in a recent bidding, with a quotation of 7.3c.

♦

S. C. Johnson & Son, Racine, Wis., was low bidder with a quotation of $153.70 on a floor polishing machine in a recent bidding opened by the U. S. Marine Corps, Washington, D. C.

Iowa Soap Co., Burlington, Iowa, has been awarded a contract by the Sam Houston U. S. Army quartermaster covering 8,000 cakes toilet soap at 1.05c and 15,300 bars at 2.72c. Armour & Co., San Antonio, Texas, awarded 4,189 cans scouring powder at 3.41c. Crystal Soap & Chemical Co., Philadelphia, awarded 3,000 cakes stove polish at 4.8c. B. T. Babbitt, Washington, awarded 50,000 cans caustic soda at 4.68c.

♦

Day & Frick, Philadelphia, awarded 21,216 cakes grit soap for Sam Houston U. S. Army quartermaster at a price of 2.85c, and an additional 21,216 at 2.55c. Steinberg-Maas Co., Houston, Texas, awarded 636,480 lbs. laundry soap at 3.84c.

♦

No award was made in the recent Brooklyn bidding on 600 5-gal. drums of insecticide, and the opening will be readvertised. Low bidder was Pure Oil Products Co., with a quotation of $1.39. Other quotations ranged up to $16.50.

♦

Iowa Soap Co., Burlington, Iowa, was low bidder on 69,780 lbs. laundry soap for the Jeffersonville, Ind., U. S. Army quartermaster in a recent bidding, with a quotation of 3.78 c. Hunnewell Soap Co., Cincinnati, was low bidder on 5,000 lbs. of scouring soap with a quotation of 3¾c.

♦

A report entitled "Selecting a Plan for Compensating Salesmen" has just been issued by the Policyholders Service Bureau of the Metropolitan Life Insurance Company, from whom copies are available on request. The report goes into the advantages and disadvantages of both the fixed salary and the commission plans, pointing out that in times of depression there is ordinarily a shift to commission arrangements, while with the return of better times it is customary for many companies to return their salesmen once more to a salary basis.

♦

Continental Can Co. will shortly start work on a new three-story plant adjacent to its present plant on South Ashland Ave., Chicago. The total expenditure will approximate a million dollars and will bring to forty-one the number of plants operated by Continental in its nation-wide chain.

♦

McKesson & Robbins, Inc., reports net sales for the first six months of 1935 of $63,296,723, compared with $62,603,239 for the first half of 1934. Combined profit from operations for the period totaled $832,110, after all deductions including fixed charges, compared with $1,055,194 for the corresponding period last year.

Market Report on

TALLOW, GREASES, AND OILS

(*As of October* 8, 1935)

NEW YORK—War talk in Europe was responsible for a resumption of the recent advance in fat and oil prices this period. As Europe recalled the blockade which starved Germany into submission in the world war, a number of European states moved to build up further their stocks of basic fats to provide against any contingencies resulting from the recent start of Italo-Ethiopian hostilities. Quotations were withdrawn on a number of oils refined chiefly in Europe such as palm and palm kernel. Olive oil foots were sharply higher and minor advances were scored in tallow and greases. Linseed oil was sharply higher as Argentine crop reports came in pointing to a reduction in the size of the current crop.

COCONUT OIL

Coconut oil prices were higher this period, with sellers for the most part remaining out of the market and watching developments in the European situation. There has been substantial buying of oil and copra for foreign account as Europe proceeds to build up its stock of basic fats. The nominal quotation for New York tanks of Manila oil in the local market is currently 4⅜c per pound.

CORN OIL

With competing products quoted higher, corn oil prices also advanced this period and the range is now from 9¼ to 9⅜c for mill tanks.

GREASE

Light offerings characterized the grease market this period and prices gained on all grades. Yellow and house grease are now quoted at 5⅞c to 6⅛c per pound.

LINSEED OIL

With Argentine crop reports indicating that unfavorable weather will reduce the size of the expected crop, linseed oil advanced a cent and a half a pound this period. Another cause for the higher price may be found in the sharp advance in chinawood oil and other drying oil quotations. Chinawood oil has gone so high in recent months that users of drying oils are turning in every possible direction to find substitutes.

OLIVE OIL FOOTS

With very light offerings of foots on spot, quotations advanced to a basis of 9½ to 9¾c pound.

PALM KERNEL OIL

Quotations on future shipments of palm kernel oil were advanced sharply this period, and at the close the market was strictly nominal. Somewhat the same situation prevailed on palm oil, with shippers largely withdrawing from the market in view of the troubled political situation.

SECOND QUARTER FAT PRODUCTION

Factory production of crude fats and oils in United States during the second quarter of 1935 is reported by the U. S. Bureau of Census as follows: Vegetable oils, 357,166,506 pounds; fish oils, 9,142,858 pounds; animal fats, 306,659,457 pounds; and greases, 64,916,031 pounds—a total of 737,884,852 pounds. Individual statistics for certain specific oils of particular importance to the soap trade are given in the following table—figures being expressed in millions of pounds:

Quarter Ended June 30, 1935

Oil or Fat	*Production*	*Consumption*	*Stocks June 30*
Cottonseed, crude	99	181	35
Coconut or copra, crude	44	128	112
Corn, crude	25	27	14
Olive, foots	..	10	13
Palm Kernel, crude	..	20	15
Palm	..	59	73
Tallow, inedible	91	179	308
Grease, white	7	9	7
Grease, yellow	15	14	13
Grease, brown	12	7	14
Fatty acids	29	29	12
Acidulated Soap Stock	15	18	29

Import figures show that during this same quarter the following amounts of fatty products were brought into United States:

	lbs.
Coconut oil	92,180,976
Palm oil	76,809,501
Cottonseed oil*	56,622,542
Tallow, inedible	86,940,542
Palm-kernel oil, inedible	18,841,980
Sulphur oil or olive foots	9,784,169
Other olive oil, inedible	9,030,261

ENCOURAGE PEANUT OIL PRODUCTION

A diversion program for the 1935 peanut crop has been announced by the U. S. Agricultural Adjustment Administration under which growers will be urged to divert a larger portion of the current crop into production of peanut oil. It is estimated that it may be necessary to divert as much as 252,000,000 pounds of the 1935 crop into oil in order to bring the price of the remainder of the crop up to the proper point. As of September 1, the crop was estimated at 1,042,000,000 pounds. Payments will be made by the A.A.A. to compensate growers, with the rate ranging on a sliding scale, depending on the price of cottonseed oil. This will prevent an unduly large percentage of the peanut crop from going into oil if the price of oil advances, and will insure the crushing of the required amount in case oil prices decline. Growers have recommended a production control program for 1936 and succeeding years.

Market Report on

SOAP AND DISINFECTANT CHEMICALS

(*As of October 8, 1935*)

NEW YORK—The market for soap and disinfectant chemicals was more active this period, with chemical users resuming full-time production schedules and starting again to draw out larger monthly shipments against contracts. The soap industry continues to keep to a higher productive level than that of a year ago, and consequently is using a larger volume of raw materials. Up to the current writing the European war scare seems to had less effect on the chemical market than it has on oil and fat prices, possibly because of the embargo on exports of war-time chemicals. One would normally expect to find glycerine, rosin, phenol and such chemicals priced higher, but to date there has been little change in market prices attributable to the Italo-Ethiopian conflict.

ALKALIS

As alkali users resumed full-time operating schedules, the the shipment of caustic soda, soda ash and caustic potash against existing contracts picked up considerably. There was no change in the schedule of prices.

COAL TAR PRODUCTS

Further firmness developed in quotations on crude naphthalene this period, as stock both here and abroad were reported at a low point. Spot shipments range in cost from $1.95 to $2.25 per 100 lbs. and the price outlook for 1936 indicates an advance in existing contract rates. The market for refined naphthalene has been quiet, but continual strength in crude material must eventually force higher prices for the refined grade.

GLYCERINE

Foreign markets for various grades of glycerine were much firmer this period as Italy at last started its long-waited campaign in Ethiopia and foreign observers began to speculate as to the possible outbreak of a major European conflict. To date, however, the American market has not been affected by the war scare and prices have not changed appreciably.

NAVAL STORES

Rosin quotations were higher this period as increased shipments and substantially lower stocks placed the market in an improved statistical position. It has been expected that the war scare would result in substantial buying for foreign account, but to date this factor has added little to the demand side of the market.

—— ♦ ——

Net sales of McKesson & Robbins, Inc., for the first six months of 1935 totaled $63,296,723 as compared with $62,603,239 for the same period last year. Profit equalled $832.110 as compared with $1,055,194 for the corresponding period of 1934.

The Federal Trade Commission has issued a complaint against D. Blum & Co., New York City, charging unfair methods of competition. The respondent is alleged to have advertised that its "O. K." and "Ever Blum" cleaning fluids would not injure the most delicate materials nor leave rings on fabrics, which assertions were proven to be false. The respondent has made stipulations with the Trade Commission whereby they will discontinue to use such phrases in their advertising.

—— ♦ ——

R. B. Weidinger, formerly district manager for Colgate-Palmolive-Peet Co. in Jacksonville, has been appointed district sales manager of the company for the Atlanta district.

—— ♦ ——

Alsop Engineering Corp., New York, filling and processing machinery, has appointed George E. Wilcox its representative in the Pittsburgh territory.

—— ♦ ——

Continental Can Co., New York, has just acquired a majority interest in the common stock of Whittall Can Co., Ltd., of Montreal, Canada.

—— ♦ ——

Edward M. Duvall, for many years Baltimore representative for Colgate & Co., died at his home in Baltimore, last month. He was fifty-six years old.

—— ♦ ——

Schieffelin & Co., Inc., New York, has entered into a stipulation with the Federal Trade Commission to discontinue unfair advertising of its floor waxes and furniture cream. Previous assertions now abandoned were that their waxes and cream would give new life to the wooden surfaces, and feed the skin of the wood with life giving oils.

—— ♦ ——

George Senn, Philadelphia, oils and naval stores, is now distributing menhaden oil and meal for the Menhaden Fish Products Co. of Baltimore.

Shoe Polishes and Dressings

A discussion of the composition and properties of the modern shoe dressing and polish, and a method for testing the quality of such products. An article by Vladimir Tuma covering these various points will be published in an early issue of SOAP.

Market Report on

ESSENTIAL OILS AND AROMATICS

(*As of October* 8, 1935)

NEW YORK—The two features of prominence in the market for essential oils and aromatic chemicals this period were the strength in Italian citrous oils and the weakness in Chinese oils. With Italy really starting her offensive in Ethiopia there was an additional wave of firmness in citrous oils which had already been advanced sharply from previous levels several weeks ago. The Italian fruit crop is being held largely for use by the troops in combatting disease, and if any additional reason for advancing prices were necessary it could easily be found in President Roosevelt's recent announcement pointing to a break in trade relations with Italy. The drop in prices of Chinese oils was not attributable to any important change in the primary market situation, but was more the result of stronger competition among local suppliers on spot.

ANISE OIL

Anise oil was down this period to a basis of 47 to 52c per pound on spot as the result of a competitive outbreak on the part of local suppliers. There has been some easing in primary market quotations, but not enough to account fully for the recent decline.

BERGAMOT OIL

In company with the other Italian citrous oils bergamot oil advanced in price this period, registering a gain of 20% per pound. Quotations now range from $1.55 to $1.90. The principal factor leading to uneasiness among users is the possibility of future shipments being cut off by a League of Nations blockade.

CASSIA OIL

The same competitive factors responsible for the decrease in anise oil prices also resulted in a moderate decline in the cassia oil market this period. This oil was being quoted 10c per pound lower in the range from $1.35 to $1.50 per pound.

LEMON OIL

Italian lemon oil was advanced to a basis of $1.50 to $2.05 per pound this period as dealers studied the possible effect on the market of the recent opening of Italian-Ethiopian hostilities.

VETIVERT OIL

Active competition in the spot market resulted in a decline in quotations on Bourbon oil this period. The current range is from $12.50 to $14.00 per pound.

—— ♦ ——

Emil Schlienger, president of Bertrand Freres, represented in United States by the firm of P. R. Dreyer Inc., arrived in New York last month for an extended visit.

George Lueders & Co., New York, essential oils and aromatics, have just celebrated the fiftieth anniversary of the founding of their firm, Oct. 10, 1885. The founder, George Lueders, died in 1933 after over fifty years of activity in the American essential oil industry, and since his death Edward V. Killeen has headed the Lueders organization. Prior to that time he had been vice-president and general manager of the company for more than fifteen years. Other officers include: Frederick J. Lueders, a son of the founder, vice-president; Ferdinand Weber, treasurer; F. G. Buehler, secretary, and George J. Wegelin, assistant secretary. George J. Lueders, another son, is a director.

—— ♦ ——

Compagnie Parento, Inc., Croton-on-Hudson, New York, has opened a branch in Chicago at 441-445 S. Dearborn Street. This new branch will be managed by Edward J. McBrady, well-known to the trade throughout the middle-west. Complete stocks of all Compagnie Parento products will be carried at the Chicago branch for the convenience of customers in that territory. This office rounds out Compagnie Parento's facilities for service to the trade as stocks will now be shipped from Chicago as well as from Croton-on-Hudson, New York and Toronto, Canada. The company, in addition, has offices in New York City, Detroit, Los Angeles, San Francisco, Seattle and Portland, Oregon.

—— ♦ ——

Polak & Schwarz, Zaandam, Holland, essential oils and perfuming materials, is opening a New York office at 667 Washington St., under the direction of John A. J. Wynmalen, long United States representative for this firm. An American company will be incorporated under the same name, with Mr. Wynmalen as president and general manager. It is also planned to open a branch in the mid-west and to maintain stocks and representatives in various cities.

—— ♦ ——

London University has recently conferred on E. J. Parry, F.I.C., the degree of Doctor of Science in Chemistry. Dr. Parry is well-known in the toilet products industry as the author of "The Chemistry of Essential Oils and Artificial Perfumes," and "Parry's Cyclopaedia of Perfumery"; also of two smaller and more popular works on gums and resins and the raw materials of perfumery.

—— ♦ ——

Magnus, Mabee & Reynard, Inc., New York, has just issued a new catalog of prices on essential oils and aromatic chemicals as of October, 1935.

CURRENT PRICE QUOTATIONS

(*As of October 8, 1935*)

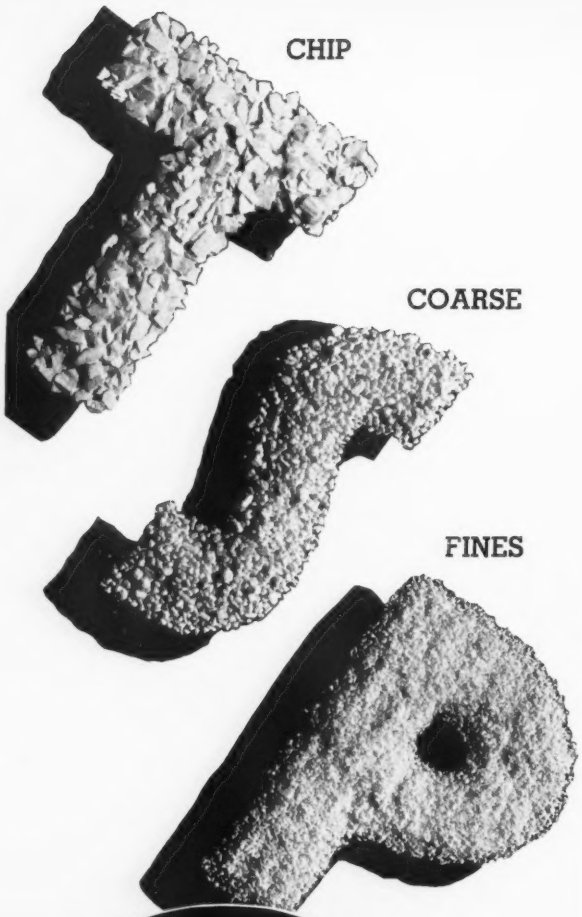
Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .11	$ .12½
Acid, Broic, bbls., 99½%	ton	95.00	100.00
Cresylic, 97½ dk., drums	gal.	.43	.44
97-99%, pale, drums	gal.	.46	.47
Low boiling grade	gal.	.64	.65
Oxalic, bbls.	lb.	.11½	.12¼
Adeps Lanae, hydrous, bbls.	lb.	.16	.18
Anhydrous, bbls.	lb.	.17	.19
Alcohol, Ethyl, U. S. P., bbls	gal.	4.16	4.28
Complete Denat., No. 5, drums, ex. gal.		.35½	.43½
Alum. Potash lump	lb.	.03½	.03¾
Ammonia Water, 26°, drums, wks	lb.	.02½	.02¾
Ammonium Carbonate, tech., bbls	lb.	.08	.12½
Bleaching Powder, drums	100 lb.	2.15	3.50
Borax, pd., cryst., bbls., kegs	ton	50.00	55.00
Carbon Tetrachloride, car lots	lb.	—	.05¼
L. C. L.	lb.	.07	.08½
Caustic, see Soda Caustic, Potash Caustic			
China Clay, filler	ton	10.00	25.00
Cresol, U. S. P., drums	lb.	.11	.11½
Creosote Oil	gal.	.11½	.12½
Feldspar (200 to 325 mesh)	ton	14.00	15.00
Formaldehyde, bbls.	lb.	.06	.07
Fullers Earth	ton	15.00	24.00
Glycerine, C. P., drums	lb.	.14	.14½
Dynamite, drums	lb.	.13¾	.14½
Saponification, drums	lb.	.10¼	.11½
Soap lye, drums	lb.	.09¼	.09½
Hexalin, drums	lb.	—	.30
Kieselguhr, bags	ton	—	35.00
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	per bbl.	1.70	2.20
Mercury Bichloride, kegs	lb.	.71	.76
Naphthalene, ref. flakes, bbls	lb.	.04¾	.05¼
Nitrobenzene (Myrbane) drums	lb.	.09	.11
Paradichlorbenzene, bbls., kegs	lb.	.16	.25
Petrolatum, bbls. (as to color)	lb.	.02	.07¼
Phenol, (Carbolic Acid), drums	lb.	.14¼	.16
Pine Oil, bbls	gal.	.59	.64
Potash, Caustic, drums	lb.	.06¼	.06½
Flake	lb.	.07	.07¼
Potassium Carbonate, solid	lb.	.07¼	.09½
Liquid	lb.	.03½	.03¾
Pumice Stone, powder	100 lb.	3.00	4.00
Rosins (600 lb. bbls. gross for net)—			
Grade B to H, basis 280 lbs.	bbl.	5.30	5.60
Grade K to N	bbl.	5.62	6.10
Grade WG and X	bbl.	6.30	6.70
Wood	bbl.	4.25	5.25
Rotten Stone, pwd. bbls.	lb.	.02½	.04½
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04⅛	.04⅜
Olive Castile, bars	lb.	.13	.19
powder.	lb.	.23	.30
Olive Oil Foot	lb.	.07	.07½
Powdered White, U. S. P.	lb.	.19	.21
Green, U. S. P.	lb.	.06½	.08
Tallow Chips	lb.	.07¼	.07¾
Whale Oil, bbls.	lb.	.05	.06
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.23	1.50
Car lots, in bulk	100 lb.	—	$1.05
Soda Caustic, cont., wks., sld	100 lb.	—	2.60
Flake	100 lb.	—	3.00
Liquid, tanks	100 lb.	—	2.25
Soda Sal., bbls.	100 lb.	1.10	1.30
Sodium Chloride (Salt)	ton	11.40	14.00
Sodium Fluoride, bbls	lb.	.07¼	.08¾
Sodium Hydrosulphite, bbls	lb.	.19	.20
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks.	100 lb.	1.35	1.75
Tar Acid Oils, 15-25%	gal.	.21	.24
Trisodium Phosphate, bags, bbls	lb.	.03	.03½
Zinc Oxide, lead free	lb.	.06	.06¼
Zinc Stearate, bbls	lb.	.20	.22

Oils — Fats — Greases

Castor, No. 1, bbls	lb.	.10¼	.11
No. 3, bbls	lb.	.09¾	.10½
Coconut			
Manila, tanks, N. Y.	lb.	.04⅜	Nom.
Tanks, Pacific coast	lb.	.03⅞	.04
Cod, Newfoundland, bbls.	gal.	—	.35
Copra, bulk, coast	lb.	—	.0220
Corn, tanks, mills	lb.	.09¼	.09⅜
Cottonseed, crude, tanks, mill	lb.	.09	.09¼
PSY	lb.	—	Nom.
Degras, Amer., bbls.	lb.	.05¼	.06
English, bbls.	lb.	.04¾	.05½
Neutral, bbls.	lb.	.08	.11
Greases, choice white bbls., N. Y.	lb.	.06¼	.07½
Yellow	lb.	.05⅞	.06⅛
House	lb.	.05⅞	.06⅛
Lard, City	lb.	.15¾	.16
Compound tierces	lb.	.12¾	.13¼
Lard Oil,			
Extra, bbls.	lb.	—	.12¼
Extra, No. 1, bbls.	lb.	—	.10½
No. 2, bbls.	lb.	—	.10
Linseed, raw, bbls., spot	lb.	.0970	.1010
Tanks, raw	lb.	—	.0910
Boiled, 5 bbls. lots	lb.	—	.1090
Menhaden, Crude, tanks, Balt.	gal.	—	.30
Oleo Oil, No. 1, bbls., N. Y.	lb.	—	.13
No. 2, bbls., N. Y.	lb.	—	.12½
Olive, denatured, bbls., N. Y.	gal.	.81	.83
Foots, bbls., N. Y.	lb.	.09½	.09¾
Palm	lb.	.04⅝	.04¾
Palm Kernel, casks, denatured	lb.	.04¾	Nom.
Peanut, domestic tanks	lb.	.09½	Nom.
Red Oil, distilled bbls.	lb.	.09⅛	.10½
Saponified bbls.	lb.	.09⅛	.10½
Tanks	lb.	—	.08¼
Soya Bean, domestic tanks, N. Y.	lb.	—	.09
Stearic Acid,			
Double pressed	lb.	.10	.11
Triple pressed, bgs.	lb.	.12¾	.13¾
Stearine, oleo bbls.	lb.	.11¾	.12
Tallow, special, f.o.b. plant	lb.	—	.06⅝
City, ex. loose, f.o.b. plant	lb.	—	.06¾
Tallow, oils, acidless, tanks, N. Y.	lb.	—	.10
Bbls., c/l N. Y.	lb.	—	.10½
Whale, refined	lb.	.07¾	.08



VICTOR

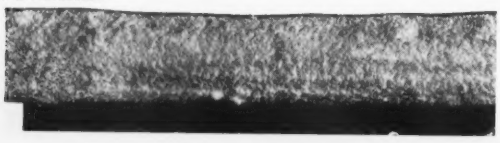
CHEMICAL WORKS

141 West Jackson Blvd.

CHICAGO

A brilliant white, free-flowing and non-caking tri-sodium phosphate of uniformly high quality. Four grades as illustrated.

POWDERED



turner

CAUSTIC POTASH

FLAKE 88/92% SOLID 88/92% LIQUID 45%

CAUSTIC SODA

FLAKE SOLID LIQUID

For Manufacturers of

SOAPS, OIL SOAPS,
DRY CLEANING SOAPS,
LIQUID SOAPS AND
TEXTILE SPECIALTIES

•

Turner Caustic Potash and Caustic Soda may be given any test you choose. Produced under a rigid system of control, they are doubly checked in the process of manufacture.

Turner chemicals are uniform and of the highest standard . . . backed by years of thorough and dependable service . . . yet priced to meet competition.

•

Write for details and prices

JOSEPH TURNER & CO.

500 Fifth Avenue • New York

83 EXCHANGE PL., PROVIDENCE, R. I.

Suppliers of Chemicals for over 70 years

(*As of October 8, 1935*)

Essential Oils

Almond, Bitter, U. S. P.	lb.	$2.00	$2.50
Bitter, F. F. P. A.	lb.	2.25	2.75
Sweet, cans	lb.	.58	.60
Anise, cans U. S. P.	lb.	.47	.52
Apricot, Kernel, cans	lb.	.22	.25
Bay tins		1.25	1.50
Bergamot, coppers	lb.	1.55	1.90
Artificial	lb.	1.00	1.30
Birch Tar, rect. tins	lb.	.70	.75
Crude, tins	lb.	.14	.16
Bois de Rose, Brazilian	lb.	1.25	1.60
Cayenne	lb.	2.40	2.90
Cade, cans	lb.	.26	.30
Cajuput, native, tins	lb.	.50	.60
Calamus, tins	lb.	3.25	3.50
Camphor, Sassy, drums	lb.	—	.19
White, drums	lb.	—	.20
Cananga, native, tins	lb.	2.65	2.90
Rectified, tins	lb.	2.95	3.50
Caraway Seed	lb.	1.95	2.20
Cassia, Redistilled, U. S. P.	lb.	1.35	1.50
Cedar Leaf, tins	lb.	.52	.65
Cedar Wood, light, drums	lb.	.22	.27
Citronella, Java, drums	lb.	.29	.33
Citronella, Ceylon, drums	lb.	.26	.29
Cloves, U. S. P., tins	lb.	.90	.92
Eucalyptus, Austl., U. S. P., cans	lb.	.27	.30
Fennel, U. S. P., tins	lb.	1.00	1.25
Geranium, African, cans	lb.	4.90	6.75
Bourbon, tins	lb.	4.75	6.75
Hemlock, tins	lb.	.70	.75
Lavender, U. S. P., tins	lb.	3.15	7.00
Spike, Spanish, cans	lb.	1.10	1.60
Lemon, Ital., U. S. P.	lb.	1.50	2.05
Lemongrass, native, cans	lb.	.70	.80
Linaloe, Mex., cases	lb.	1.35	1.50
Nutmeg, U. S. P., tins	lb.	1.20	1.35
Orange, Sweet W. Ind., tins	lb.	2.40	2.50
Italian cop	lb.	2.35	3.25
Distilled	lb.	.65	.70
Origanum, cans, tech.	lb.	.70	.75
Patchouli	lb.	3.00	3.50
Pennyroyal, dom.	lb.	1.75	1.90
Imported	lb.	1.35	1.70
Peppermint, nat., cases	lb.	1.95	2.25
Redis., U. S. P., cases	lb.	2.25	2.45
Petit, Grain, S. A. tins	lb.	1.00	1.15
Pine Needle, Siberian	lb.	.90	.95
Rose, Natural	oz.	5.50	18.00
Artificial	oz.	2.00	3.00
Rosemary, U. S. P., tins	lb.	.34	.45
Tech., lb. tins	lb.	.30	.40
Sandalwood, E. Ind., U. S. P.	lb.	5.00	5.50
Sassafras, U. S. P.	lb.	.75	1.00
Artificial	lb.	.45	.50
Spearmint, U. S. P.	lb.	1.65	1.85
Thyme, red, U. S. P.	lb.	.58	1.02
White, U. S. P.	lb.	.65	1.10
Vetivert, Bourbon	lb.	12.50	14.00
Ylang Ylang, Bourbon	lb.	4.60	7.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.25	$2.25
Amyl Cinnamic Aldehyde	lb.	1.75	2.50
Anethol	lb.	1.00	1.10
Benzaldehyde, tech.	lb.	.60	.65
U. S. P.	lb.	1.10	1.30
Benzyl, Acetate	lb.	.56	1.00
Alcohol	lb.	.65	1.15
Citral	lb.	2.40	2.60
Citronellal	lb.	2.05	2.50
Citronellol	lb.	2.10	2.65
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	3.10	3.30
Cymene, drums	gal.	.90	1.25
Diphenyl oxide		.85	1.25
Eucalyptol, U. S. P.	lb.	.50	.55
Eugenol, U. S. P.	lb.	2.00	2.50
Geraniol, Domestic	lb.	1.25	2.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	3.00	3.50
Heliotropin	lb.	2.00	2.10
Hydroxycitronellal	lb.	3.50	9.00
Indol, C. P.	oz.	2.00	2.50
Ionone	lb.	3.60	6.50
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	1.65	2.25
Linalyl Acetate	lb.	1.85	4.25
Menthol	lb.	3.50	3.60
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.15	3.20
Paracresol	lb.	4.50	6.00
Salicylate, U. S. P.	lb.	.40	.45
Musk Ambrette	lb.	4.75	6.00
Ketone	lb.	5.00	6.50
Xylene	lb.	1.50	2.50
Phenylacetaldehyde	lb.	4.80	8.00
Phenylacetic Acid, 1 lb., bot.	lb.	3.00	4.00
Phenylethyl Alcohol, 1 lb. bot.	lb.	4.00	4.50
Rhodinol	lb.	5.75	8.00
Safrol	lb.	.60	.62
Terpineol, C. P., 1,000 lb. drs.	lb.	.33	.35
Cans	lb.	.36	.37
Terpinyl Acetate, 25 lb. cans	lb.	.80	.90
Thymol, U. S. P.	lb.	1.40	1.50
Vanillin, U. S. P.	lb.	3.00	3.50
Yara Yara	lb.	1.30	2.00

Insecticide Materials

Insect powder, bbls.	lb.	.15	.17
Concentrated Extract			
5 to 1	gal.	1.25	1.30
20 to 1	gal.	3.75	4.40
30 to 1	gal.	5.60	6.20
Derris, powder—4%	lb.	.41	.45
Derris, powder—5%	lb.	.46	.50
Cube, powder—4%	lb.	.39	.43
Cube, powder—5%	lb.	.44	.48

Gums

Arabic, Amb. Sts.	lb.	.12¾	.13¾
White, powdered	lb.	—	.16¾
Karaya, powdered No. 1	lb.	.08	.09
Tragacanth, Aleppo, No. 1	lb.	1.20	1.25
Sorts	lb.	—	.25

Waxes

Bees, white	lb.	—	.33½
African, bgs.	lb.	.22	.23
Refined, yel.	lb.	.27	.28
Candelilla, bgs.	lb.	.16	.17
Carnauba, No. 1	lb.	.50	.52
No. 2, yel.	lb.	.47	.50
No. 3, chalky	lb.	.38	.40
Ceresin yellow	lb.	.36	.38
Paraffin, ref. 125-130	lb.	.04¼	.04½

(*From Page* 25)

nothing!! Ask the grocery chains, they're the gyp artists. They can tell you!" One man interviewed said he rarely sold any soap until after the hour when the grocery stores close. (Even the most thrifty household can not afford to go soapless to bed.) Another refused to give any attention to sales promotion of toilet soaps because grocery competition rendered such efforts futile. The general attitude is that any special effort to increase sales does not pay. If people want to buy soap, all well and good; if not it will keep well enough on the shelves.

THE other side, however, in the stores of those who have made some merchandising effort shows that some druggists have been able to increase sales though they are, no more than others, secluded from the competition of the grocery store. But, even they find that large window displays of soap do not pay. Only Yardley's and Colgate's are reported to be so treated and in these cases it is obvious that the display consists of the manufacturer's entire line of products and does not emphasize the soap. Small displays, a little extra sales talk, and basket assortments in the store have been found, by a number of managers, to be the most effective way to improve sales.

Profits derived from the sale of toilet soaps, in spite of such expressed disinterestedness, stand on approximately the same level as the general line of goods carried by the store. In only two cases were the gross profits below thirty per cent. One of these was a member of a large chain which practices price cutting. Those stores attained the largest profits which serve a discriminating and fairly well-to-do group, making profits through steady patronage rather than by spectacular sales and price cuts.

The druggist, therefore, in spite of being to a large extent displaced by the practices of the chain grocery still exercises noteworthy control over the soap buying habits of consumers and may, if sufficient effort is exerted, gain considerable profit from his line of soaps. Many small druggists, discouraged at the start, maintain an apathetic attitude where a little energetic merchandising might greatly improve their sales of toilet soaps. The druggist continues to be the most important factor in the sales of those soaps unattainable at the grocery.

Advertising not only gains the greatest sales for known trade-marks but also leaves less and less power to guide sales in the hands of the store manager. There is, however, a considerable group swayed not by advertisements but by the policy and statements of their druggists, although the majority follows the warnings of B. O., "dishpan hands," or "clogged pores," and promises of "the skin you love to touch," and "a skin like a baby's," or "a face like a movie star's." In the final analysis, advertising *does* sell soap just as it sells a thousand and one other things.

PRODUCTION SECTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries.*

The sulfonation of oils and other fatty derivatives becomes increasingly important. The first of a series of two articles on the manufacture, properties and application of various

SULFONATED OILS

By A. E. Sunderland

SULFONATED oils comprise at the present time, the products obtained by the action of strong sulfuric acid on vegetable, animal, and mineral oils, also their fatty acids, and alcohols. The early history of the discovery, and manufacture of sulfonated oils is interesting, but not very important, in its bearing on the oils, prepared, and sold at the present day. It has an academic interest to the dyer, and printer, because it illustrates the development of a large industry, which has grown from the original researches of a dyer, and chemist, who wished to improve, and shorten the long drawn out process of dyeing madder turkey reds.

Briefly the history dates from 1831, when a product obtained by mixing sulfuric acid, and oil, probably olive oil, was described by Fremy. In 1834, Runge described similar products, which were then known as sulfoleates. An English patent was taken out by Mercer, and Greenwood in 1847, for a sulfonated olive oil, treated with sodium chlorate. In 1870, castor oil was first used for the preparation of sulfonated oils, and since that time, sulfonation experiments have been made on practically all the known commercial oils, and fats and the resultant products studied to see, if they offered any advantage over the sulfonated oils in use. Thus there are available at the present time, for use in the multifarious processes, of the textile, leather, and metal industries, the following:—sulfonated castor oil, olive oil, corn oil, neatsfoot oil, lard oil, rape oil, mustard seed oil, tea seed oil, sunflower oil, tallow, oleic acid, or red oil, cod oil, herring oil, whale oil, sperm oil, coconut oil, palm kernel oil, palm oil, degras, fatty acids of the foregoing oils, fatty alcohols, and products from mineral oil refining.

All these have special physical properties, which make them useful for specific purposes. The sulfonated fatty alcohols, are a development of recent date, the fatty alcohols, being now available due to the discovery of their manufacture by the reduction of the corresponding fatty acid. The ester derivatives of the fatty acids have also been prepared, and their sulfonated compounds tested for their use in the textile, and oil industries. These products have received much publicity during the last few years, and their special properties of being unaffected by weak mineral acids, and also the lime, and magnesium salts of these sulfonated oils being soluble in water, have given them a place in the textile field which had not been previously filled by any of the other sulfonated products.

Sulfonated oils were originally used for the mordanting of cotton, in turkey red dyeing, and printing, by means of madder, or alizarine, and other mordant fixed colors, and with the improvement in solubility, and other qualities, their use gradually developed as softeners for bleached, and dyed cotton goods, and also their deter-

gent, and wetting out qualities were utilized in the boiling out of cotton fabrics, in the preparatory processes before dyeing.

The rapid growth of the petroleum industry in the latter part of the nineteenth century, and the discovery that certain sulfonated fatty oils would mix with mineral oil, giving a clear solution and that this resulting mixture was then emulsifiable with water, opened up another field for the use of sulfonated oils. This discovery also, gave to the textile, leather, and metal industries, a supply of cheap oils, which before could not be utilized for these industries. It may be a matter of opinion, whether this was an unmixed blessing, but it cannot be denied, that if mineral oils had been less abundant, their many valuable properties in a great number of applications, would have been more recognized, and appreciated.

It is not necessary to go into the controversies with regard to the reactions which take place in the sulfonation of oils. This was summarized very well by R. G. Radcliffe and S. Medofski in *The Journal of Dyers and Colourists*, 1918, p. 22-34. Their experiments were however not carried out according to works practice, and so the experimental conclusions can only be held true for the experiments described. The reason for this is that the sulfonation of oils consists in the mixing of two incompatible liquids, and the reaction, which takes place, is dependent upon the actual contact taking place between the two liquids, and also the actual temperature at the point of contact.

There are other variables in the reaction due to the colloidal physical condition of the oil, and the reaction products, such as adsorption, and solution, which makes the reaction, far from stoichemetric, in the experimental calculations. Thus the finished product can be made to vary very greatly, according to the two factors of degree of mixing, and temperature of the mixture. This will be dealt with more in detail in the description of the actual manufacture.

Radcliffe and Medofski, in their experiments, sulfonated a series of oils, and also used increasing amounts of sulfuric acid namely 35, 50, and 70 per cent on the weight of the oil. These quantities are all above the theoretical requirements, for the complete sulfonation of the glyceride, which is 25.5 per cent according to the formula,

$$C_3H_5\,[\,OOC(CH_2)_7.CH_2.CH.(CH_2)_7.CH_3\,]_3$$
$$\vert$$
$$H.SO_4$$

or 16.3 per cent, if the formular of Geitel and Juillard be adopted namely

$$C_3H_5\,[\,OOC(CH_2)_7.CH_2.CH.(CH_2)_7.CH_3\,]_3$$
$$\vert$$
$$SO_4$$
$$\vert$$
$$C_3H_5\,[\,OOC(CH_2)_7.CH_2.CH.(CH_2)_7.CH_3\,]_3$$

but as their experiments also included the sulfonation of the fatty acids, they used the amount of 35 per cent as a basis, as this was equal to one molecule of sulfuric acid to one molecule of oleic acid. From their experiments, by estimating the iodine, acetyl, saponification, neutralization values, and melting point of the resultant fatty acids, they found a wide divergence in the amount, and composition of the reaction products.

Before describing these, it would be of advantage to consider the accepted theory, with regard to the sequence of reactions taking place during the sulfonation process. This is shown by the following formulae:

$$C_3H_5\,[\,OOC(CH_2)_7.CH{:}CH.(CH_2)_7CH_3\,]_3$$
$$+\ H_2SO_4 = C_3H_4$$
$$[OOC(CH_2)_7CH_2.CH(CH_2)_7CH_3\,]_2$$
$$\vert$$
$$H.SO_4$$

It is the endeavor of the sulfonator to obtain as high a percentage of this product as possible, by keeping the temperature as low as possible, but on account of the heat developed locally by the action of the sulfuric acid on the oil, and also on the impurities in the oil, (which has a very great bearing on the reaction), part of the triolein hydrogen sulfate, is changed to hydroxystearic acid, as per the following equation:

$$C_3H_5\,[\,OOC(CH_2)_7CH_2.CH(CH_2)_7CH_3\,]_3 =$$
$$\vert$$
$$H.SO_4$$
$$_3\,[\,COOH(CH_2)_7CH.(CH_2)_8CH_3\,] +$$
$$\vert$$
$$OH$$
$$C_3H_5(OH)_3 + H_2SO_4$$

The hydroxystearic acid loses a molecule of water, and is changed into the lactone.

$$COOH(CH_2)_7.CH.(CH_2)_8.CH_3 =$$
$$CO.(CH_2)_7.CH.(CH_2)_8.CH_3 + OH_2$$

The hydroxystearic acid is saponified easily by cold alkali, but the lactone is only saponified by boiling with alcoholic potash, and this gives a method for their separation, the lactone being determined by the difference in the potash absorption when the product is titrated in alcohol solution with $N/2$ caustic potash, and the figures obtained by saponification with $N/2$ alcoholic potash, and the excess alkalinity titrated with $N/2$ HCl in the usual manner.

IN the sulfonation of all oils, there is in a greater or less degree, dependent upon the temperature, and the quality, and kind of oil, an evolution of sulfur dioxide. This is caused by the reduction of part of the sulfuric acid, either by reaction with the glycerine liberated in the above reaction, or by reaction with some of the impurities in the oil. Thus in some sulfonated oils, the reaction may proceed further than the reaction shown in the above equations. Sulfonation, and the ensuing decompositions take place very rapidly, and we find that corresponding with the kind of oil, we have a progressive variation in the percentage of sulfonated product, of hydroxy products, lactones and polymerized fats.

Geitel, and later, Radcliffe, and Medofski determined

the relative combining power of different oils with sulfuric acid in the following manner. *Method*: Five grams of the oil were placed in a flask, and kept cool in a bath of ice water. Then one gram of sulfuric acid = 20 per cent on weight of oil, was run in drop by drop, keeping the temperature at 0°C., and stirring at a uniform speed. The mixture was allowed to stand two hours, alcohol was added, and the mixture titrated in alcohol solution with *N*/1 KOH. The difference between the amount of alkali needed for the titration of the oil, and acid separately (added together), and the amount required to neutralize the acid oil mixture, was taken as a measure of the sulfuric acid absorbed by the oil.

From these figures, it was found that the absorption varied directly as the amount of oleic acid or triolein (glyceride) which was in the oil. They tabulated the results as follows:

	Milligrams of KOH for 1 gram H_2SO_4	Grams H_2SO_4 combined with 100 grams oil	Per cent of Olein in oil	Iodine value	Acetyl value
Oleic Acid	67.75	11.8	97.3	87	87
Olive Oil	63.42	11.1	80.8	86	53
Rape Oil	53.72	9.4	little	113	16
Sesame Oil	32.76	5.7	72.0	116	44
Whale Oil	26.40	4.6	little	120	23
Linseed Oil	21.40	3.7	none	113	9
Palmitic Acid	8.21	1.4	none		
Stearic Acid	7.63	1.3	none		

The claim of Radcliffe and Modofski that the absorption of sulfuric acid is proportional to the amount of oleic acid in the oil is open to the criticism that in the above test, it is possible that in the case of the oils containing unsaturated glycerides the reaction is so rapid that sulfonation takes place, with immediate conversion to hydroxy acids, then to lactones, with attendant polymerization. Thus experiments in the sulfonating of various oils under as nearly as possible identical temperature control, shows a regular progression in the amounts of hydroxy acids, lactones, etc.

Castor oil—No hydroxy acids formed at low temperatures, but increase in temperature causes their production.

Olive oil—Hydroxy acids and lactones formed.

Oleic acid—Hydroxy acids and lactones formed.

Sesame oil and cottonseed oil—Less hydroxy acids, more lactones.

Rapeseed oil and whale oil—Hydroxy acids absent, lactones present.

Linseed oil—No hydroxy acids or lactones. Polymerization.

Bearing upon this, also, is the experience in the sulfonation of oils containing unsaturated compounds, using sulfuric acid which has been diluted with water, or alcohol. These experiments showed that some oils, which could not be sulfonated with full strength sulfuric acid, could be sulfonated with weak acid, so as to give a satisfactory commercial product.

In the experimental work, published from time to time, on the sulfonation of oils, and the investigation of the resulting products, the question of the purity of the oil does not seem to have received the attention, which it rightly deserves. It is a difficult matter to purify an oil without altering its physical properties. Most oils, even when they appear perfectly clear, will throw down a sediment on standing for a lengthened period. This sediment is supposed to consist of stearins, which are thrown out of solution by changes taking place in the oil. This is not correct in all cases, because sometimes the sediment contains a large percentage of albuminous compounds, and if the same oil is sulfonated, before and after these compounds have settled out, entirely different sulfonated oils are produced.

Reverting again to the former paragraph, where diluted sulfuric acid has been successfully used for the sulfonation of some oils, which could not be sulfonated with strong sulfuric acid, we find that the same idea is incorporated in Japanese patent 37636 Dec. 9, 1920, which claims the sulfonation of fatty acids, and glycerides by agitating with excess of aromatic sulfonic acids, below 35°C., thus preventing loss by polymerization, or charring.

WHEN we come to consider the practical manufacture of sulfonated oils, we find that the technique of sulfonating oils has not been very much improved since their first discovery until within the last few years. In the manufacture of sulfonated oils in bulk, there was no attempt made to keep the temperature of the mixture as low as 0° C., although it was the practice to keep the temperature as low as possible by means of jacketed tanks, and cooling coils. The maximum temperature allowed was usually 90° F. In some cases where an oil is required for a special purpose, and where the secondary reaction products are also valuable constituents for the use to which the oil is put, the temperature is allowed to go higher, namely to 130-135° F., but experience is required in working at this higher temperature, because the reaction may get out of control, and the batch spoiled.

The rate of adding the sulfuric acid to the oil, was usually dependent upon the temperature, and the degree of agitation was confined to about 40 r.p.m., using a vertical rotating member, with side paddles. Investigation, however, showed that the rate of agitation controlled the rate of sulfonation, and K. Loffl in *Seifenfabrik* No. 40, p. 81-83, 1920, found that by special agitation the sulfonation time could be reduced from five hours to seventeen minutes. This indicated that the chemical action of sulfonation is fairly rapid, but it was found by experiments with a colloid mill, running the oil and acid in separate streams into the mill at the same time, that by the very intimate mixture obtained in this way, sulfonation took place almost instantly. By such quick sulfonation, considerable heat was produced, according to the oil being treated, and as the colloid mill had no means of cooling the interfacial surfaces, only a limited amount of oil could be treated before the machine became too hot for uniform production.

The experiments showed, however, that it is quite feasible to design and operate a colloid mill of this

character so as to produce a uniform sulfonated oil in a minimum time. When these experiments were carried out, the production of highly sulfonated oils from fatty acids and alcohols, by sulfonation at low temperatures, had not appeared, and the mere saving of time, which seemed to be the only advantage of the colloid mill over the ordinary method of sulfonation at that time, did not warrant the cost. Also, acid-resisting steels were not then available, and there was the action of the acid upon the steel rotating surfaces to be taken into consideration. However, at the present time, with the new acid-proof steels, and the new technique of low temperature sulfonation available, the use of the colloid mill should not be lost sight of.

It has been shown how the degree of mixing affects the rapidity of sulfonation, but also the rate at which the sulfuric acid is added to the oil, determines the character of the sulfonated product. There are two methods of addition, one where the acid is added very slowly, and the temperature kept below 90° F., and the other where the acid is added very quickly, and the temperature allowed to reach 135° F. The former method is used for the production of high sulfonated oils, and the length of time taken in adding the acid is usually from four to eight hours depending upon the capacity, and efficiency of the cooling system.

The second method is used for the production of sulfonated oils for blending with neutral saponifiable oils, or with mineral oils. The time taken to run in the sulfuric acid is usually fifteen minutes, and with oils such as castor oil, where the temperature does not reach 135° F., the mixture of oil and acid is stirred for a further hour after the acid has been added. But with oils similar to corn oil, cottonseed oil, etc., where a certain amount of heat is generated, the temperature is carefully watched, and when the temperature of 135° F. is reached, the oil and acid mixture is dumped into the water in the wash tank.

The first method, which for the time, we will call the high sulfonation method, gives acid oils which when washed with water only, will not separate, but require to be washed with a twenty per cent solution of Glauber's salt, and even then are slow to separate. The second method, called the quick sulfonation method, gives acid oils, which can in some cases be washed with water only, giving good and quick separation. The oils, after washing, and neutralizing, give brilliantly clear oils which do not separate water, or salt sediment on standing.

The method of washing the acid oil free from sulfuric acid, also modifies considerably the final composition of the oil. In many cases the acid oil is slowly stirred with a twenty per cent solution of Glauber's salt solution, so as to obtain efficient mixing, but avoiding excessive stirring, so as to prevent emulsification as much as possible. After standing sixteen to twenty hours, usually overnight, the water is drawn off, and the oil neutralized with caustic soda and finished. In other cases the acid oil is given two washes. After the first wash, the oil is allowed to stand for only a comparatively short time, one to two hours, and then whatever water has separated is drawn off and a second supply of Glauber's salt solution added, and after mixing is allowed to stand overnight for separation.

Another method which is used, and is said to give good results, is one described in English Patents 23768, 1906, and 21280, 1908, which consists in running the acid oil mixture, not into a Glauber's salt solution, but into a solution of caustic soda or potash of such a strength as to not quite neutralize all the free sulfuric acid. The combination of the sulfuric acid with the caustic soda produces the necessary sodium sulfate required for efficient separation, and also the oil is neutralized much more accurately than is the case when simply washed with a Glauber's salt solution. After mixing with the caustic alkali solution, the mixture is allowed to stand overnight in the usual way. This procedure gives a standard method of washing not obtainable by any other method, and helps to remove one of the variables, which can and does, in many cases, spoil a sulfonated oil. Sulfonated oils washed in this way are fast to weak and strong acetic acid, and also do not precipitate as readily with lime and magnesia salts as the sulfonated oils washed with Glauber's salt solution only.

RECOGNITION of the fact that the sulfonated oil glyceride was so readily decomposed in weak acid solutions, and also by high temperatures, led to investigations to devise methods to overcome these adverse reactions. The first attempt was to produce as quick a heat transfer from the oil to the cooling surfaces as possible. When this was done, it was found that the resulting sulfonated oil showed a gradual increase in combined SO_3, and also an increased resistance to decomposition by mineral acid. The problem was, however, complicated by the fact that at such low temperatures as 0° C., and below, the oil became so thick that ordinary agitation by means of rotating paddles was insufficient to give adequate mixing. This was overcome by the use of mixers of the Pfleiderer, or dough mixer type, with refrigerating circulation in both the jackets and mixer arms.

Another method of overcoming the thickening of the oil at low temperatures was to mix the oil before sulfonating with a volatile solvent which was inert to the action of strong sulfuric acid, such as members of the chlorinated olefine series, special choice being made of ethylene dichloride. After sulfonation, the volatile solvent is recovered by distillation under reduced pressure at a sufficiently low temperature as to cause very little decomposition of the sulfonated oil.

Sulfonated oils made by the low temperature method are not decomposed by dilute mineral acid, and are not precipitated by lime and magnesia compounds. They also retain the softening, and lubricating qualities of the original oil to a greater extent than the sulfonated oils prepared from the fatty acids, or fatty alcohols.

(*Turn to Page* 71)

Oxygen Washing Powders

SOAP powders from which oxygen is set free in use are held to clean more effectively than ordinary soap, especially in their whitening and bleaching action. Soap powders are made by drying soap flakes with hot air and pulverizing in a suitable mill. The ingredients to be added are ground and mixed with the soap powder in dry mixers, which are usually combinations of mills and sieves. The latter frequently consist of an outer casing of wood and an inner casing of fine wire mesh, which revolves slowly, and as it does, throws the fine mixed powder into the outer cone, from which it passes through an outlet. The equipment is not particularly complicated and is therefore subject to considerable variation, according to Arthur Jones in a recent issue of *Soap, Perfumery & Cosmetics*, London.

Of the oxygen ingredients which readily give up nascent oxygen, the one most generally used is sodium perborate. This gives up an atom of oxygen and changes to borax. Sodium peroxide can also be used, but it is much more violent in its action. In aqueous solution it forms caustic soda, giving up an atom of oxygen. The presence of the free caustic soda may be objectionable, which is one reason that sodium peroxide is not used more extensively. Sodium perborate, $NaBO_3$, $4H_2O$, is a white crystalline salt which readily gives up its extra oxygen. The salt should contain not less than 10.4 per cent of active oxygen. A trace of yellow color in the salt may be due to the presence of iron, or it may be due to decomposition of the salt resulting from contact with moisture.

A method of testing for active oxygen is by permanganate titration. One gram of the oxidizing salt is dissolved in water in a 500 cc. volumetric flask, acidified with 5 cc. of dilute sulfuric acid, and the solution diluted to volume. Titrate 50 cc. of this immediately with 0.1 *N* potassium permanganate solution until a permanent violet color remains on standing. One cc. of 0.1 *N* permanganate solution is equivalent to 0.0008 grams of oxygen. Therefore the 50 cc. of solution titrated containing 0.1 gram of salt, require 13 cc. of the standard permanganate solution, if the salt contains 10.4 per cent of active oxygen.

Experience indicates that sodium perborate has definite ability to improve and hasten the cleansing action of domestic washing powders. By means of its marked penetrating properties, it gets into the fabric and the borax produced by the decomposition of the salt aids in cleansing. Powdered compositions for mild household uses such as the washing of delicate fabrics or for personal use, consist essentially of pure soap powder with the addition of perborate, and perhaps some metasilicate or phosphate. A few typical formulas are as follows:

Shampoo Powder

Dry soap powder	2 lbs.
Sodium perborate	2 oz.
Sodium silicate	2 oz.
Perfume to suit	

Quick Washing Powder

Soap powder	10 parts
Sodium perborate	1 part
Sodium metasilicate	1 part

Fine Washing Powder for Delicate Fabrics

Dry neutral olive oil soap powder	100 parts
Sodium metaphosphate	2 parts
Sodium perborate	10 parts

Hair Wash and Bleach

Sodium perborate	50 parts
Soap powder	50 parts

PROTECTION OF SOAP QUALITY

In order to produce toilet soaps of fine quality, it is necessary not only to exercise careful control during manufacture, but also to consider the conditions of storage. Chemical supervision and checking during the various stages of manufacture may result in the production of an excellent product, but unless the same thought is given to packing and storing, the original quality may be lost. Precautions to be observed throughout the numerous phases of preparation and handling have been summarized as follows:

1. Saponification of the fat stock must be complete. Lack of thorough saponification always gives rise to the danger of rancidity development.

2. When it is desired to have superfatting agents present, saponifiable fats should not be used for this purpose. Proper choice of superfatting agents is of first importance.

3. Hydrolysis of saponified soap should be prevented by the presence of sufficient free alkali and suitable conditions of drying. The tendency in any chemical reaction, including saponification, is to reach an equilibrium condition short of complete reaction. Excess of one of the reacting products sends the reaction toward completion.

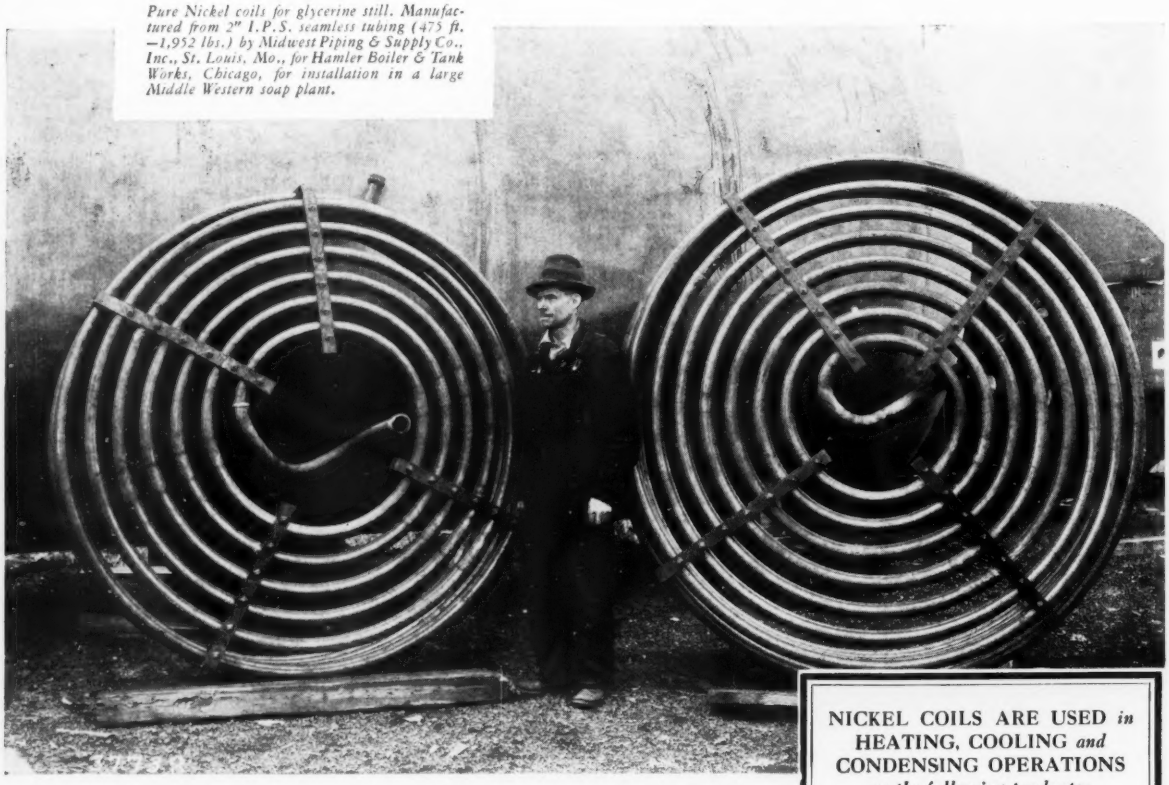
4. Toilet soap should be packed so as to be efficiently protected from the effect of light, in order to preserve color and aroma. Lavender oil and pine-needle oil are especially sensitive to light. Red and yellow soaps tend to be bleached by sun light or diffuse daylight.

5. Soap stored without packing may be affected by the moisture, carbon dioxide and sulfur dioxide content of the air. Exposure to air may cause decided deterioration. Th. Ruemele. *Seifen-Fachblatt* **7**, No. 8, 1-2 (1935).

A soap for removing color or paint contains sawdust and ground marble. Paul Bönzli. Swiss Patent No. 171.729.

Modern Soap Plants use Coils made of
PURE NICKEL *and* MONEL METAL

Pure Nickel coils for glycerine still. Manufactured from 2" I.P.S. seamless tubing (475 ft. —1,952 lbs.) by Midwest Piping & Supply Co., Inc., St. Louis, Mo., for Hamler Boiler & Tank Works, Chicago, for installation in a large Middle Western soap plant.

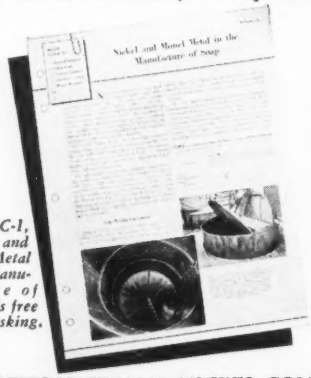


● Heating, cooling and condensing coils of Pure Nickel and Monel Metal eliminate the possibility of iron contamination and rust...and show high resistance to corrosion by lye, salt and fatty acids.

Coils of Pure Nickel are not only much stronger than other non-ferrous metals but possess excellent heat transfer efficiency and are superior in this respect to most corrosion-resistant materials.

Soap plants are constantly faced with the need of eliminating off-color products, injurious effects on fragrance, and the development of rancidity due to copper or iron contamination as a result of contact with steel, brass, or copper equipment, or introduced in raw materials.

More and more plants are effectively overcoming these troubles by using processing machinery employing nickel, Monel Metal and Nickel-Clad Steel for surfaces that come in contact with the product. Manufacturers of soap plant equipment will welcome your inquiries.



Bulletin C-1, "Nickel and Monel Metal in the Manufacture of Soap," is free for the asking.

NICKEL COILS ARE USED *in* HEATING, COOLING *and* CONDENSING OPERATIONS *on the following products:*

Soap
Fatty Acids
Caustic Soda
Caustic Potash
Stearic Acid
Brines
Glycerine
Hydrofluoric Acid
Gelatine
Aniline
Photographic Developing Solutions
Flotation Chemicals
Photographic Emulsions
Ammonium Thiocyanate
Organic Peroxides
Phenol
Peroxide Bleaching Solutions
Perfumes and Essential Oils
Synthetic Resins
Sodium Silicate
Tomato and many other food products
Milk and Cream
Beer and Wines
Paraffin (during chlorination)
Distilled Water

Detailed information about any installation will be given on request

Monel Metal is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

THE INTERNATIONAL NICKEL COMPANY, INC., 67 Wall Street, New York, N.Y.

ON PRODUCTS AND PROCESSES

The temperature rise shown by various oils in the Mackey test is a practical guide to the extent of the discoloration that may be expected when soaps made from the respective oils are kept in storage. Soaps made from oils which do not show temperature rises above about 100° C. do not darken on storage. Oleic and erucic acids show fairly high Mackey values although their soaps do not discolor. S. Ueno and S. Komori. *J. Soc. Chem. Ind.*, Japan **37**, Suppl. binding 650-4.

♦

Peanut oil is converted into calcium soap by heating with 14-15 per cent of lime under 40-50 pounds pressure in an autoclave for 12 hours. Glycerol is recovered as a by-product. The calcium soap is dried at 105° C. for 3 hours and subjected to dry distillation, when a greenish yellow, slightly fluorescent crude oil is obtained. Fractionation of this gives 21 per cent of light oil, 59.5 per cent of middle oil and 12 per cent of heavy oil. These fractions are similar to gasoline, kerosene and lubricating oil respectively. Er-Kang Li and Shing-Chien Chow. *Chinese Industry* **1**, 1327-34 (1935).

♦

A solid material which acts as a detergent and disinfectant when dissolved in water, consists of 80-90 parts of sodium metasilicate, 10-15 parts of free caustic soda, and a minor amount of a solid hypochlorite compound. I. G. Farbenindustrie A.-G. Canadian Patent No. 352,778.

♦

Soaps for use with sea water are composed of salts of amines or of quaternary ammonium bases containing alkyl radicals of high molecular weight. For example, the hydrobromide salt of *N*-dimethyl-dodecylamine is made into a soap with potato flour. I. G. Farbenind. A.-G. French Patent No. 780,044.

♦

Wetting and dispersing agents contain a substantial proportion of an acid sulfuric ester of a stable non-primary aliphatic alcohol containing at least 8 carbon atoms, and an equivalent or greater amount of alkali. I. G. Farbenindustrie A.-G. Canadian Patent No. 353,081.

♦

Soaps which contain fluid fatty oils with an iodine number of 70 or more are prevented from becoming rancid by adding glycerol or other appropriate alcohols and soluble phosphates such as trisodium phosphate. Viktor Dabsch and Robert Franki. French Patent No. 781,641.

♦

A mixture of 25 per cent kaolin and 20 per cent animal charcoal is most suited for the decolorization of tea-seed oil. Hsuin-Tsi Yu. *Nanking J.* **1**, 213-8.

Acid amides which are useful as wetting, foaming and emulsifying agents and detergents, are obtained by condensation of fatty acids with amino alcohols of the formula $NHR(CHOH)_nCH_2OH$, in which R is hydrogen or an alkyl hydrocarbon radical with not more than 5 carbon atoms and n is 5 or 6. The products may be treated with five or more molecules of ethylene oxide for each molecule of acid amide. As an example, methylglucamine is condensed with stearic or ricinoleic acid or the acids obtained from coconut oil or spermaceti, and the products treated with ethylene oxide. Imperial Chemical Industries Ltd. and Henry A. Piggott. British Patent No. 420,518.

♦

A process for the treatment of aqueous caustic soda solutions for the removal of sulfate consists of treating the solution with a member of the group consisting of carbon dioxide, a salt and salts of carbonic acid, to produce a precipitate containing sulfate and carbonate, and separating the precipitate from the clear liquor. The Canadian Industries, Ltd. Canadian Patent No. 346,280.

♦

Wetting agents are made by condensing amines containing one hydroxylated organic radical with higher carboxylic or sulfonic acids to produce esters. A typical product is prepared by heating monoethanolamine and stearic acid to 180° C. I. G. Farbenind. A.-G. German Patent No. 612,686.

♦

In Kingzett's iodometric method for the determination of perborate in soap powder, the period of 5 minutes allowed for the interaction between acidified perborate and potassium iodine is insufficient. A few drops of a 3 per cent of ammonium molybdate solution may be added to catalyze the reaction. This makes immediate titration possible. J. R. N. van Kregten. *Chem. Weekblad* **32**, 317 (1935).

♦

A new method of characterization of fats is by polarity. The method is based on surface-tension data and emulsification behavior when solutions of the fats in gasoline are mixed with aqueous potassium hydroxide. P. Rebinder and L. Solov'eva. *Masloboino Zhirovoe Delo* **1935**, 60-3.

♦

Marine fats and oils are refined by heating in the absence of air to temperatures above 200° C., and preferably above 250° C., for over 24 hours or possibly for several days, until the iodine number is considerably decreased. Sigval Schmidt-Nielsen. Norwegian Patent No. 54,966.

SYNTHETIC FATTY ACIDS IN SOAPS

Present plans of the U. S. S. R. include an annual output of at least a million tons of soap containing on the average 40 per cent of fatty acids. Considerable research has been conducted on the synthesis of fatty acids from petroleum oils but the attempt to translate the results into large scale operations has been attended by technical difficulties. The chief difficulty seems to be to get rid of oxy-acids. Manufacture of soaps from the synthetic fatty acids has not been completely successful. In general the soaps produced are inferior to ordinary soaps. It is difficult to purify and bleach these soaps, a difficulty closely allied to that of separation of oxy-acids and of unsaponifiable matter from the fatty acids. Attempts are being made to utilize the oxy-acids by converting them into unsaturated acids. *Chem. Trade J.* **97,** 218 (1935).

◆

The detergent action of soap depends on both the surface activity of the solution and on the stability of the surface film. The structure of soap molecules and micelles which determines the surface activity and adsorptive power, plus a tendency to aggregate into complex hydrated micelles, leads to the formation of a skin or film and ultimately to a viscous-plastic coating which is chiefly instrumental in dirt removal. The addition of colloidal clay to soap causes a marked increase in lathering power and in all cases the lather is firmer than that of pure soap, and more persistent. The amount of colloidal kaolin soap required to convert a given quantity of water completely into lather is about 60 per cent of that required by soap alone. A particularly valuable property of colloidal clay in soap is that of absorbing any free alkali. Contrary to previously expressed views, the greatly improved types of colloidal clay now available have made this material more suitable in the manufacture of toilet soaps. Bentonite is being increasingly used for soap making. W. G. Cass. *Am. Perfumer* **30,** 243, 260 (1935).

◆

Chloro compounds of hydrocarbons are used for cleaning paints, varnishes, enamels, etc. An example of such a product is one which contains 570 parts of dichlor methane, 350 parts of ethylene chloride, 40 parts of alcohol, 100 parts of pulverized white naphthalene, 80 parts of paraffin, 20 of resin, 10 of rubber and 2 of acetophenol. Alfred Abraham and Marcel L. A. Philippon. French Patent No. 780,494.

◆

Fats and fatty oils may be hydrogenated with a sulfide of tungsten, nickel or cobalt as catalyst. Precautions to avoid the poisoning of the catalyst are then unnecessary. I. G. Farbenind. A-G. German Patent No. 615,148.

◆

Wood fiber which has been freed from incrusting substances is incorporated in soap tablets. Friedrich Werth. German Patent No. 594,499.

A NEW LECITHIN FOR SOAP

Lecithin is supposed to have a soothing effect on the skin, and because of this and other attributes, is considered a desirable addition to soaps. The difficulty of incorporating lecithin in ordinary soap is that it is apt to separate or "spot out". A new German product has been described termed "soap-lecithin". It is a liquid of the consistency of sugar syrup and having a lecithin content of 55 per cent. When warmed it is readily miscible with soap, giving a completely homogeneous product. The material used with lecithin to give it this property appears to be a trade secret.

Experiments are reported showing that the addition of 2-3 per cent of free lecithin to soap decreases foaming power, but that the addition of the new soap-lecithin does not affect it. The effect on the hydrolytic dissociation of soap in solution was studied by adding 1 cc. of phenolphthalein solution to aqueous 0.5 per cent solutions of soap, soap containing 4 per cent of soap-lecithin, and soap containing 6 per cent of soap-lecithin. The pure soap solution was colored deep red, the one with 4 per cent addition, lighter red, and the one with 6 per cent addition pale red. It was concluded that the presence of this form of lecithin suppressed hydrolysis.

Experiments on detergent ability were carried out with 100 cc. of 0.5 per cent solutions of (a) soap, (b) soap containing 4 per cent of soap-lecithin, and (c) soap containing 6 per cent of soap-lecithin. To test suspending power 0.5 gram of dry powder was shaken with each of the above for one minute. After 3 minutes standing, *a* showed 4 cc., *b* 2 cc. and *c* 1 cc. of settled material. The added soap-lecithin increased the suspending power of soap solution. To test emulsifying power, similar solutions were shaken with 10 cc. of peanut oil. After 5 minutes the emulsified portion in *a* read 11 cc., in *b* 12 cc. and in *c* 13 cc. Mineral oil treated similarly gave emulsified portions of 13 cc. in *a*, 14 cc. in *b*, and 16 cc. in *c*. The product therefore increased the emulsifying power of soap solution for both fatty oil and mineral oil. Samples of the treated soap were cut and exposed to the action of light for several weeks. No change was observed. Karl Braun. *Seifen-, Oel- und FettIndustrie* **21,** 238-9 (1935).

◆

Castor oil was dehydrated with acid earth as a catalyst by heating the oil with acid earth, using carbon dioxide gas for agitation and to provide an inert atmosphere. The degree of dehydration was measured by the iodine and acetyl numbers of the treated oils. The dehydrating action was very gradual below 100° C. The most effective temperatures were 200-250°. The acetyl number decreased from 139.5 to 7.9 in 20 minutes at 250° C. when 20 per cent of acid earth was used in the mixture. At higher temperatures a splitting action of the acid earth on the glycerides becomes prominent. Experiments were made on castor, linseed and cottonseed oils. Teikichi Yamada. *J. Soc. Chem. Ind., Japan* **38,** Suppl. binding 120-3 (1935).

SULFONATED OILS

(*From Page 61*)

Reverting again to the consideration of the readiness of the sulfonated glycerides to decompose and methods to overcome this fault, another method of attack to solve this problem was the consideration of the products produced by the sulfonation of the fatty acids. The principal fatty acid, and the one most readily available is oleic or red oil. The action of sulfuric acid on this fatty acid has received considerable attention on account of the fact that many years ago, one of the chief constituents in the manufacture of candles was produced by the action of sulfuric acid on oleic acid. The oleic acid was mixed rapidly with strong sulfuric acid and then run into boiling water, and heated with steam until the sulfonated oil (stearic acid hydrogen sulfate) is changed into hydroxy stearic acid, and finally into stereo lactone.

Stereo lactone crystallizes from alcohol in white laminae and has a melting point of 49° C. These physical qualities are mentioned here because they have a bearing upon the properties of some sulfonated oils, mentioned later, which the makers claim to have superior qualities, and the details of manufacture point to the inference that these superior qualities must be due to the presence of either hydroxy stearic acid, stereo lactone, or some polymerized fatty acid.

The sulfonated product obtained by the action of sulfuric acid on oleic acid at 5° C. is stearic acid hydrogen sulfate, using molecular equivalents of sulfuric acid and oleic acid:

$$CH_3(CH_2)_7.CH_2.CH.(CH_2)_7.COOH$$
$$\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad 1$$
$$\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad H.SO_4$$

This compound when isolated is a clear reddish brown oil, soluble in water, alcohol, and ether. It contains 8.4 per cent sulfur, equivalent to 20.5 per cent combined SO_3, and agrees with the formula given above. The amount of oleic acid converted to this product by the sulfonation is usually between 25-35 per cent of the amount of oil treated. This would give a SO_3 content for the finished oil of 5-7 per cent combined SO_3 dry basis.

Experiments made using two molecules of strong sulfuric acid to one molecule of oleic acid, did not increase the amount of sulfonated oil very greatly. If, however, 100 per cent sulfuric acid is used in place of the commercial strong sulfuric acid, and the amount of acid increased to three molecules of acid to one of oleic acid, by keeping the temperature to 0° C., the percentage of sulfonated oil is materially increased, yielding an oil, containing 13 per cent SO_3 (dry basis). This oil is distinctly different from the regular sulfonated oil, having characteristics pointing to a true sulfonated product, rather than an acid ester.

The foregoing is a general outline of the process of oil sulfonation, together with a consideration of the method of washing and separation.

THE general theory with regard to sulfonation of oils is that only oils containing hydroxyl or ethylene linkage are suitable for sulfonation, and that saturated compounds like stearic acid, palmitic acid and their glycerides cannot be sulfonated. However, when these compounds are mixed with unsaturated fats, like oleic acid or castor oil, and then sulfonated, they yield sulfonated oils which are entirely different from the oil which is produced from a mixture of the palmitic acid, or stearic acid, and sulfonated oleic acid, or sulfonated castor oil. The reason for this may be that the palmitic or stearic acids, when mixed with oleic acid, act like an inert, or unacted-upon diluent of the oleic acid, and absorb the sufonated oleic acid as it is formed, thus preventing secondary reactions, and giving a much greater amount of sulfonated oleic acid. This method of sulfonating mixtures of palmitic acid, and oleic acid, or castor oil was the subject matter of British Patent 18333, Aug. 9, 1912, taken out by I. Levinstein & Sons.

The idea of sulfonating mixtures of oils with different chemical characteristics has been applied also to the sulfonation of mixtures of the semi-drying oils, such as rapeseed oil and mustard seed oil, along with olive oil, lard oil or neatsfoot oil. The finished oils produced by the sulfonation of these mixed oils, have a lower titer and are superior in many ways to an oil made by mixing the separately sulfonated oils. The application of this method to the sulfonation of hydrogenated fats and oils, is claimed in British Patent 16890, July 16, 1914, also U. S. Patent 1185414. I. Levinstein.

The technique of the mechanical mixing, and treatment of the mixture of the sulfuric acid, and the oil, has been closely investigated and we find that in U. S. Patent 1081775, Dec. 16, 1913, claim is made that a sulfonated oil with a high resistance to acid and lime and magnesium salts, can be produced by treating the oil with sulfuric acid, adding water and separating by centrifuging. In U. S. Patent 1374607, April 12, 1921, F. L. Randel claims the process of sulfonating in vacuo to prevent rise in temperature. A volatile hydrocarbon, as benzol may be added for its evaporative cooling effect.

The use of metallic catalysts has also received attention and in British Patent 199743, June 15, 1923, claim is made for the use of finely divided metals of the iron group. According to the example given in the patent, iron fillings are suspended in fish oil and concentrated sulfuric acid is added. Methods of mixing the oil and sulfuric acid by spraying or by running together in thin films have been tried, but the results did not give a sufficiently superior product to compensate for the increased complication of the process.

(*To be concluded*)

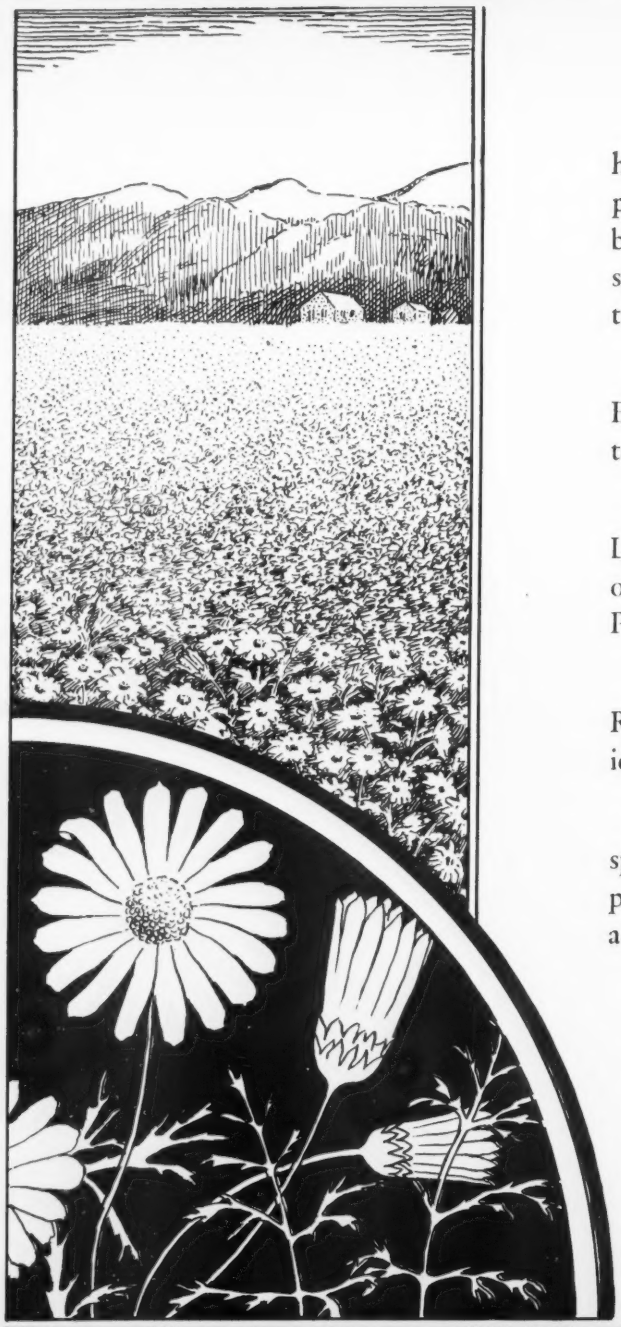
Oil is obtained from seeds, fruit, etc. by causing them to react under pressure with steam produced from their natural moisture content. If the seeds are partly dried an amount of water is added corresponding to that removed. Ateliers de construction mécanique de Tirlemont, Soc. anon. French Patent No. 778,274.

SANITARY PRODUCTS

A Section of "SOAP" Dealing with

INSECTICIDES • DISINFECTANTS • EXTERMINATING
FLOOR PRODUCTS • SANITARY SUPPLIES • MOTH PRODUCTS

Specialists in



As a manufacturer of insecticides you have the normal amount of manufacturing problems. These can be greatly simplified by affiliating yourself with a source of supply equipped with the proper facilities to investigate such problems.

The primary object of our Chemical and Entomological Laboratory is to give service to you.

Look upon our Laboratory as *your* Laboratory, devoting its entire time and all of its facilities to Pyrethrum and Rotenone Products.

As true specialists in Pyrethrum and Rotenone Products, we offer to you a service that cannot be surpassed.

Experience gained from this intensified specialization is at your disposal. Your problems will receive thorough, practical and helpful consideration.

"KILLING POWER"

POWCO BRAND
REG. U.S. PAT. OFF

JOHN POWELL
114 E. 32nd Street

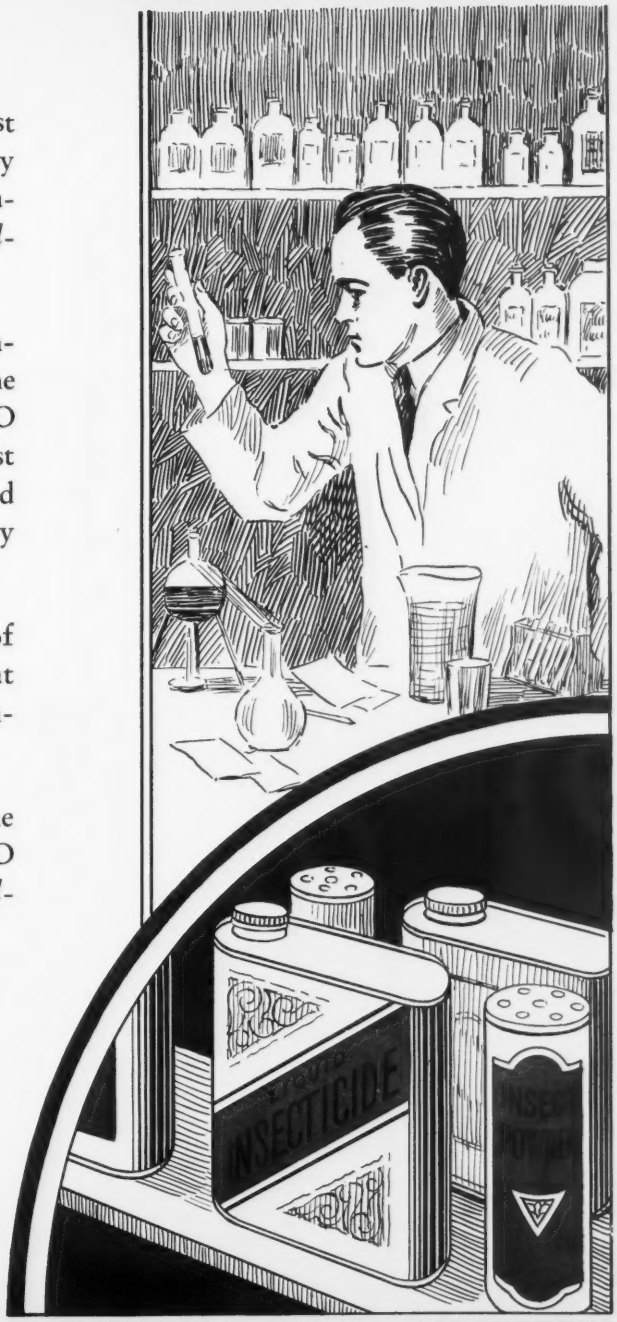
Pyrethrum Products

Every POWCO BRAND Product is most distinctly a *branded product*, processed by our exclusive and proven methods,—manufacturing methods based on years of *specialization.*

Whether it be Pyrethrum Powder, Concentrated Pyrethrum Extract or a Rotenone Product—if it carries the name POWCO BRAND, that assures you of the highest standard of *killing power*, stability and other desirable qualities determined both by chemical and practical biological tests.

Every step in the manufacture of POWCO BRAND Products is carried out under careful chemical and biological control.

For every important need in life, one seeks the skill of a specialist—by POWCO BRAND specialization you get *better quality at a saving.*



THAT'S THE THING"

& COMPANY, Inc.
New York, N. Y.

POWCO BRAND
REG. U.S. PAT. OFF.

What does "Guaranteed

Analyses of Concentrated Pyrethrum Extracts Offered

MANUFACTURER	PYRETHRIN CONTENT			
	GUARANTEED* TOTAL %	ACTUALLY PRESENT (SEIL METHOD) I %	II %	TOTAL %
A. United States	2.4	0.40	0.53	0.93
B Spain	2.5	0.20	0.90	1.10
C. United States	2.4	0.71	1 12	1.83
D. United States	2.4	1.00	1.28	2.28
E. United States	2.4	0.98	1.30	2.28
D. United States	2.4	0.93	1.38	2.31
F. United States	2.4	0.93	1.41	2.34
Pyrocide 20	2.4	1.14	1.30	2.44
G. Japan	9.0	3.37	4.76	8.13
H. Germany	15.0	5.20	8.42	13.62

** The pyrethrin content of each extract was guaranteed, as indicated.*

The buyer of the lot from which sample A was taken paid 50c per gallon less than Pyrocide 20 would have cost him—the material was less than half as strong as Pyrocide 20.

Analyses made in our research laboratory.

UNIFORM KILLING POWER

Pyrethrin Content" Mean?

in the United States Within the Last Six Months:

PERCENTAGE BELOW OR ABOVE GUARANTEE
−61.3
−56.0
−23.8
− 5.0
− 5.0
− 3.8
− 2.5
+ 1.7
− 9.7
− 9.2

These analyses are self-explanatory and prove better than any sales argument we could possibly offer the real reason for using Pyrocide 20.

Pyrocide 20 is the *First Standard Brand* and *actually contains* 2.0 grams of pyrethrins per 100 cc., equivalent to 2.4 per cent pyrethrins. It not only contains this percentage of pyrethrins when you receive it, but *retains* its strength.

Pyrocide 20 is shipped in 5, 10, 15, 30, and 53 gallon drums. Warehouse stocks in New York, Los Angeles, and Minneapolis. *Write for free booklet.*

McLAUGHLIN GORMLEY KING COMPANY
MINNEAPOLIS, MINNESOTA

PYROCIDE 20
STANDARDIZED EXTRACT OF PYRETHRUM FLOWERS

APPROVED B. A. I. DISINFECTANT

Where an approved B. A. I. disinfectant is required, offer

CRESTALL FLUID

registered in Washington officially with the Bureau of Animal Industry, U. S. Department of Agriculture, for the disinfection of stock cars, boats, other vehicles and premises used to house or transport live stock affected with communicable disease.

You can buy CRESTALL FLUID for resale under your own brand, with the assurance that it has already passed all the tests for registration with the Government and State Bureaus of Animal Industry. We assist you in registering your brand and guarantee that every lot you buy is of the same composition as the sample approved by the U. S. Department of Agriculture.

CRESTALL FLUID is a coal-tar disinfectant of the cresol type, and is similar in appearance and odor to Liquor Cresolis Compositus. It is freely soluble in water and dilutes to form a clear, amber-colored solution. It contains more than 50% of high grade Cresylic Acid. Besides its stock use, as outlined above, it is well suited for hospital use and as a general cleanser.

BAIRD & McGUIRE, Inc.

Holbrook, Mass. **St. Louis, Mo.**

New York City and New Jersey Representative
Eastern States Supply Co., 127 Troutman St., Brooklyn, N. Y.
Phone EVergreen 8-2498

Effective Extermination *plus* SAFETY!

THE standardization of Sodium Fluoride Colored Official Nile Blue has effectively done away with hazard to the public. No one will mistake the blue tinted powder for a food ingredient. . . . Its potency as an exterminating agent maintains it as the dominant insecticide for the commercial and household destruction of insect pests. . . . This General Chemical Company product excels in free-flowing quality and fluffiness.

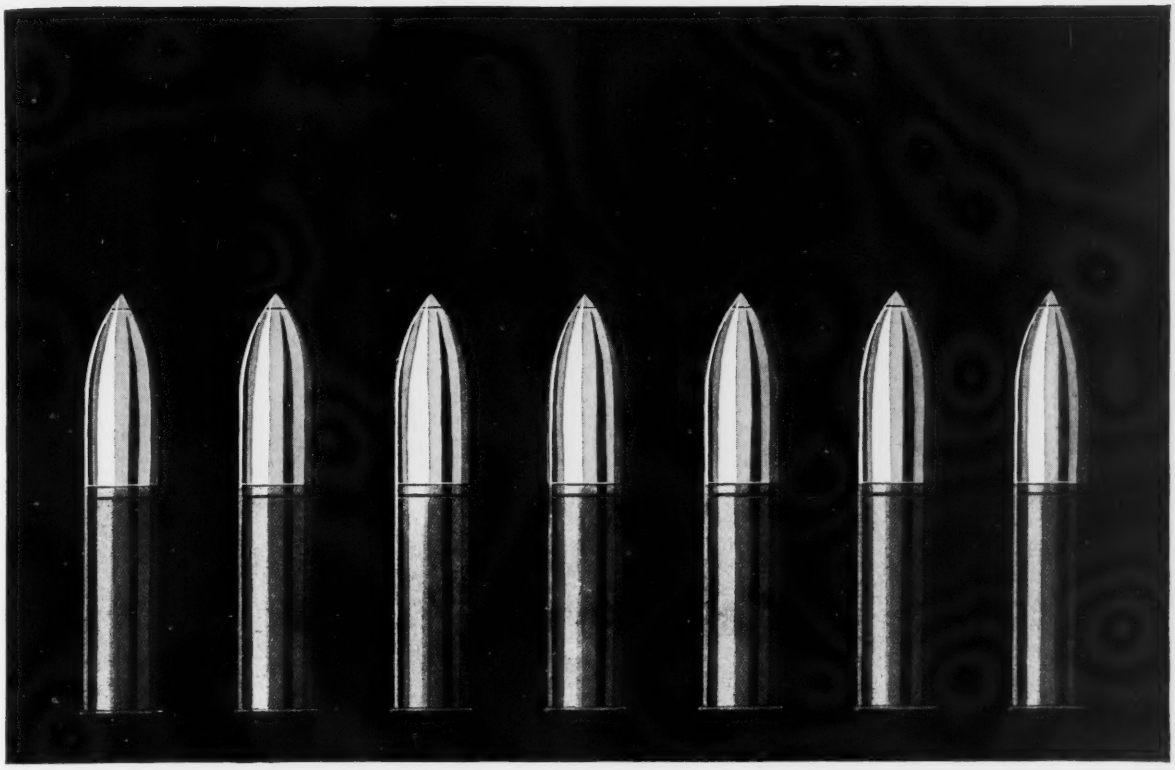
Your inquiry, addressed to the nearest office, will receive prompt and intelligent attention.

GENERAL CHEMICAL COMPANY
40 Rector Street, New York

Sales Offices: Atlanta, Baltimore, Boston, Buffalo, Charlotte, Chicago, Cleveland, Denver, Kansas City, Los Angeles, Minneapolis, Philadelphia, Pittsburgh, Providence, San Francisco, St. Louis, Seattle. *In Canada:* The Nichols Chemical Company, Limited, Montreal, P. Q.

Manufacturers also of
Tri Sodium Phosphate . Sodium Silicate and other Heavy Chemicals of Standard Purity

Colored OFFICIAL NILE BLUE
SODIUM FLUORIDE



UNIFORM KILLING POWER

—that's what you get in these finer ground Pyrethrum and Derris Powders

PYRETHRUM POWDER: Finest available, with a known high pyrethrin content. Milled with modern equipment which makes heat accumulation impossible. Ground extremely fine—contains more killing particles—remains suspended in the air longer. More effective and economical because it comes into more intimate contact with vital parts of insect's body.

DERRIS POWDER: Finest powder in the world. Standardized at 4% rotenone. Suitable for use in aqueous sprays. Will not clog spray nozzles.

Many valuable insecticide facts are contained in a recent article on "Pyrethrum and Derris Powders — A Study of Their Protection from Injurious Action of Light and Air." We shall be glad to send you a copy upon request. McCormick & Co., Baltimore, Md.

Other McCormick Standardized Pyrethrum and Derris Products

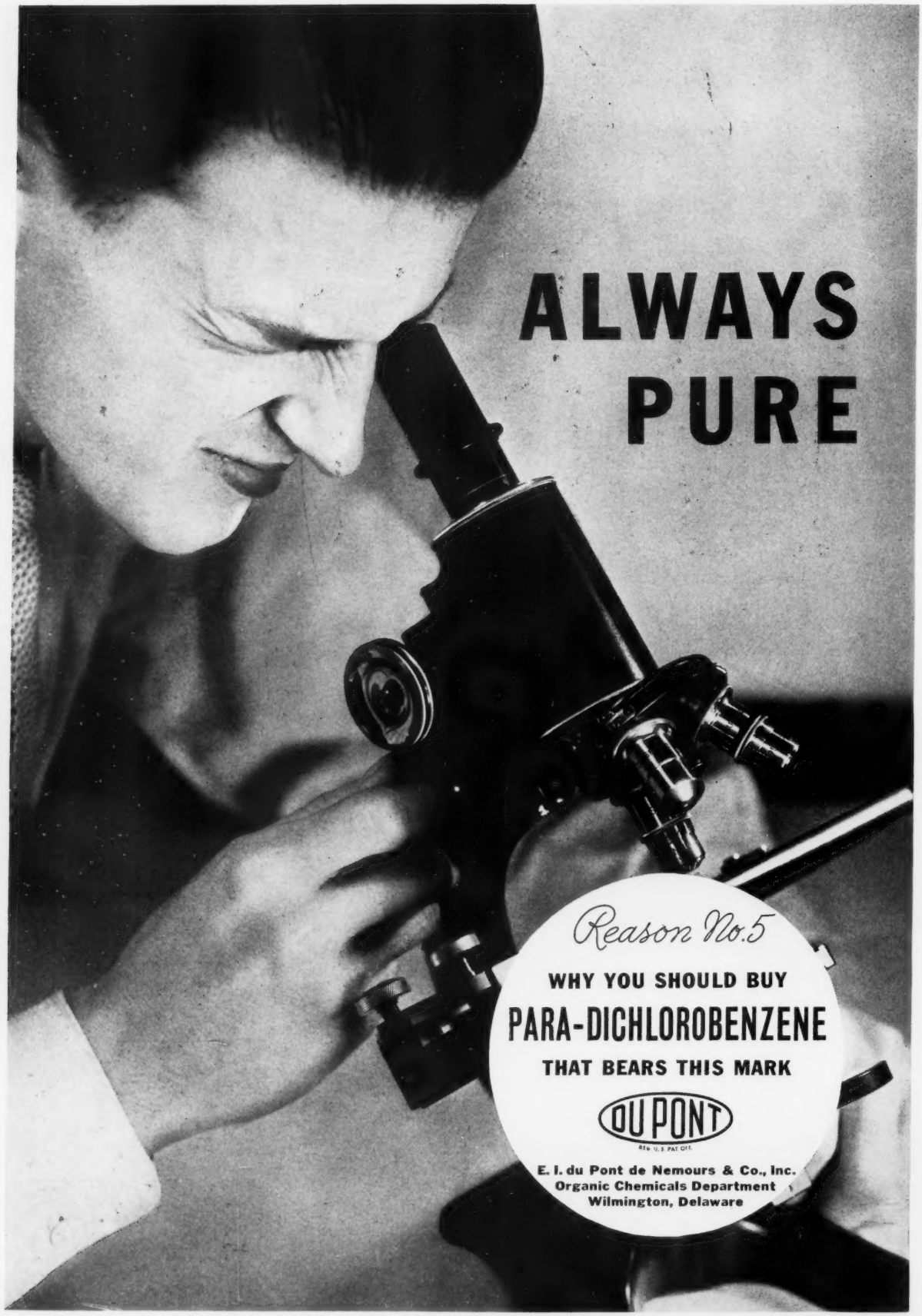
PYRETHROL 20: A uniform, standardized pyrethrum concentrate, the necessary amount of high-test pyrethrum flowers being used in processing each gallon of extract. The quality of the ingredients entering into Pyrethrol 20 is determined at all times by chemical assay. Then double checked by actual spraying on household insects. Only by this constant exacting effort are we able to produce an always uniform concentrate of the desired high killing power.

DERRIS EXTRACT: Containing 5.0 grams of rotenone per 100 c. c. plus the other toxic derivatives of derris root.

DERRIS RESINATE: Containing 25% rotenone and 75% active resins.

ROTENONE CRYSTALS: As solvate, 71% rotenone.

McCormick's


ALWAYS
PURE
Reason No. 5
WHY YOU SHOULD BUY
PARA-DICHLOROBENZENE
THAT BEARS THIS MARK
DU PONT
Reg. U.S. Pat. Off.
E. I. du Pont de Nemours & Co., Inc.
Organic Chemicals Department
Wilmington, Delaware

SANITARY PRODUCTS

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

The Editorial View

A VERY definite and practical specification for a liquid household insecticide, suitable for the use of industry, states, municipalities, and other purchasers, may become fact sooner than has been generally anticipated. Acting in response to the obvious need of such a practical specification, and in part to forestall the further compilation of impracticable and useless specifications, the Board of Governors of the National Association of Insecticide and Disinfectant Manufacturers called upon Dr. Robert C. White of Philadelphia to undertake this work and to call upon the members of the various scientific committees of the Association for such aid as he might require. The plan is to submit the specification to the Association for action at its annual meeting in December, and in the meantime, to request various cities, states, and others who have new insecticide specifications awaiting approval, to postpone action until after that time. The acceptance of this task by Dr. White is to be commended. Likewise, his acceptance should help to clear up the uncertainties of a situation which was becoming each month more complicated. Those who are interested can be assured of as practical and complete a specification as possible. He knows what he is doing, and what to do, and, most important, he will do it.

♦

AS A parting shot in leaving America last month, Dr. Leopold Ruzicka, pioneer in the chemistry of pyrethrum, whose research along with that of Staudinger, Harder and Tattersfield, dates back some twenty years, expressed the view that our present chemical methods for assaying pyrethrum are just about useless. He labelled them scientifically unsound, and stated that our actual knowledge of the chemistry of pyrethrum is not nearly as great as we have come to believe. The biological evaluation of pyrethrum,—the Peet Grady Test,—he did not comment upon, pleading lack of knowledge of the method. And with that, the affable scientist sailed away, leaving the pyrethrum situation more beclouded than ever.

♦

ONE of the large insurance companies has issued a booklet covering methods for compensating salesmen. This reminds us that about six months ago we made a questionnaire survey on this subject among a group of manufacturers. The only conclusion at which we arrived when the facts and figures were digested, was that no two manufacturers had the same ideas or the same system, even in the same line of business. The old adage of "pay them what they are worth" may apply, but we fear that too many of the salesmen whom we have observed could not afford to work for any such salary.

♦

WITH pyrethrum prices down to about half of what they were not so many months back, possibly some of the manufacturers who have been selling finished insect sprays in bulk to the institutional trade and others at prices next to nothing, can now afford to add a little pyrethrum to their products,—enough perhaps to cause the insects at least slight discomfort, which was not the case heretofore.

National Association of Insecticide *and* Disinfectant Manufacturers

OFFICERS

President ..... **Charles P. McCormick**
McCormick & Co., Baltimore.

1st Vice-President ..... **W. B. Eddy**
Rochester Germicide Co., Rochester, N. Y.

2nd Vice-President ..... **W. G. Griesemer**
Black Flag Co., Baltimore.

Treasurer ..... **John Powell**
John Powell & Co., New York.

Secretary ..... **John H. Wright**

BOARD OF GOVERNORS

Samuel H. Bell ..... **S. H. Bell Co., Pittsburgh**
J. L. Brenn
Huntington Laboratories, Huntington, Ind.
W. H. Gesell ... **Lehn & Fink, Inc., Bloomfield, N. J.**
H. W. Hamilton ..... **White Tar Co., Kearny, N. J.**
Stanton C. Kelton .. **Rohm & Haas, Inc., Philadelphia**
Dr. George Reddish
Lambert Pharmacal Co., St. Louis
Wallace Thomas ..... **Gulf Refining Co., Pittsburgh**
S. S. Selig ..... **The Selig Co., Atlanta**
Dr. Robert C. White
Robert C. White Co., Philadelphia
W. J. Zick ..... **Stanco, Incorporated, New York**

MEMBERSHIP

Active — Open to manufacturers and wholesale distributors of disinfectants, germicides, deodorants, insecticides, liquid soaps, polishes, and allied products. Dues —$75.00 per year.

Associate — Open to firms supplying raw materials, containers, equipment, etc., to the membership. Dues—$50.00 per year.

For further details, communicate with

NATIONAL ASSOCIATION OF INSECTICIDE & DISINFECTANT MANUFACTURERS

John H. Wright, Secretary

CHRYSLER BUILDING **NEW YORK**

Notes of the Trade

Sinclair Refining Co., makers of "P. D." and other specialties, moved its New York offices, October 7, to new quarters at 630 Fifth Ave. Offices were formerly located at 45 Nassau Street. The new telephone number is CIrcle 6-3600.

G. Allen Reeder has been appointed advertising manager of Zonite Sales Corp., New York, and will have direct supervision over advertising of "Zonite" antiseptic, suppositories, ointment and any new products containing "Zonite" as an active ingredient. "Forhan's" tooth paste, powder, antiseptic and astringent will be handled as a separate unit and a third group will include "Annette's Perfect Cleaner" "Argyrol" and "Ovoferrin."

F. W. Foreman, formerly with Rex Spray Co., Toledo, is now with Pine Consolidated Corp., household specialties, as New York manager.

United Sanitary Chemical Co., Baltimore janitor supply house, has moved from 407 West Lombard St. to larger quarters at 402 West Lombard St.

Experimental culture of pyrethrum has been started by the Irish Free State Department of Agriculture with a view to determining the feasibility of commercial production.

In the last issue of SOAP, the new address of the Uncle Sam Chemical Co., New York, was incorrectly given as 359 Cherry Street. This was the old address, the new one being 329 East 29th Street. The new telephone number is AShland 4-8090.

Seydel Chemical Co., Jersey City, N. J., is introducing a new chlorinated hydrocarbon deodorant under the name "Cloroben."

J. A. Tumbler Laboratories, Baltimore, have a new four-story plant in construction to replace one destroyed by fire several months ago. The concern manufactures polishes.

Concerns interested in the purchase of rotenone-bearing botanicals may communicate with two suppliers in Ecuador through the Chemical Division of the U. S. Bureau of Foreign and Domestic Commerce, Washington, D. C.

Ace Janitor Supply Co., Detroit, has moved from 518 to 455 W. Jefferson St.

Anderson Exterminating Co., San Francisco, has relocated at 1029 Geary St.

A Discussion of the Composition, Costs, Effectiveness, Manufacture, and Uses of Modern

ROACH POWDERS

THE question of what is the best composition for an all-around insecticide for use against cockroaches has upon numerous occasions entered the controversial stage. Innumerable tests with every type of insecticidal material have been conducted by entomologists in laboratories and by practical exterminators in the field. Not always do the laboratory findings agree with the results secured by field workers. Materials which may have a high degree of effectiveness in a cage test, are sometimes found to be ineffective when used on a large scale against a heavy infestation of roaches. If a material is used according to accepted exterminating methods, and the roaches are still present, then the practical exterminator or manufacturer concludes that the product is not suitable for use against roaches irrespective of laboratory findings. In short, not only is the insecticidal material of importance, but the conditions under which it is effective are equally important when the composition of a commercial roach powder is considered.

This situation undoubtedly accounts for the fact that today only a few materials enter into the make-up of roach powders out of a total of a dozen or more which might be considered suitable based on their ability to kill roaches in the laboratory. Mention sodium fluoride, pyrethrum, borax, and more recently derris, and there is the list of raw materials to which manufacturers have settled down. They are the raw materials which, judged by their effectiveness as roach killers and by their cost, are practicable for inclusion in a modern roach powder.

Disagreement between manufacturers and between entomologists as to the correct proportions of these materials to produce the best powder, have determined to a great extent the wide variation in the formulas of commercial products. Some use as much as ninety per cent sodium fluoride. A few use sodium fluoride alone without other insecticidal material or without any diluent. Some use a fifty-fifty mixture of sodium fluoride and pyrethrum powder, while others use one-third pyrethrum and two-thirds sodium fluoride. Still others use sodium fluoride mixed with an equal quantity of starch, flour or powdered sugar. A few include borax in their mixtures, and more lately the inclusion of derris or cube powder, from five to twenty-five per cent, with pyrethrum has been noted although this latter combination is covered by patent.

All of these various mixtures have been found to be very effective against roaches. The variation in composition may be determined by individual ideas of effectiveness, by the desire to reduce the cost, or by the problem of whether the insecticide must be non-poisonous. This latter is not the simple problem which it might appear off-hand. In some places fluoride is considered toxic to humans and warm-blooded animals, and in other places, it is not definitely classified as such. In some places, there are no restrictions against its use, while in others, it is restricted. In the case of derris, cube, or other rotenone bearing material, the Department of Agriculture has not as yet determined exactly to its own satisfaction whether these products are non-toxic

to humans, and it therefore objects to manufacturers of products containing them using the term "harmless to humans" on labels or elsewhere.

A check of various roach powders on the market revealed that there are at least ten—and probably more,—different variations of the common raw materials being used. These are (1) straight sodium fluoride without anything else added, (2) fifty per cent sodium fluoride and fifty per cent of starch, flour, or sugar, (3) mixtures of sodium fluoride and borax in varying proportions, (4) straight borax, (5) sodium fluoride and pyrethrum mixtures from 90 per cent fluoride down to a fifty-fifty mixture, (6) sodium fluoride and pyrethrum with an equal amount of borax, (7) pyrethrum and borax in equal parts, (8) pyrethrum and starch or clay, the pyrethrum making up from 75 to 85 per cent of the mixture, (9) pyrethrum with 5 to 25 per cent of derris, (10) straight pyrethrum, and pyrethrum compounds.

All these powders have varying degrees of effectiveness. Some are fast killers, and some are slow. Some are sure killers, and some are not always sure under practical conditions. Some are cheap and some are expensive. Borax, which was perhaps the first roach powder ever used, is a notoriously slow killer, although its cheapness is attractive where manufacturers are interested in cutting costs. However, it is so inferior to other materials that there is some wonder that its used at all. As far back as 1918, after careful investigations by the U. S. Department of Agriculture, it was pointed out in a report that " . . . satisfactory results against roaches, in most cases, can be obtained only when the material is repeatedly and persistently used." Any material which is labeled thus by the Department of Agriculture does not seem to have any place in a commercial roach powder, that is if the manufacturer cares about the reputation of his product. And when it is noted that borax may take from 4 to 7 days to kill, its effectiveness as a practical insecticide cannot be considered very high. As a diluent for fluoride or pyrethrum, it may serve a purpose, but as the sole insecticidal ingredient of a roach powder, it has no place today.

In the rate of kill, pyrethrum is perhaps the fastest of all the materials. It paralyzes the roach within a few minutes after he has walked through the powder, although it may require 48 hours to actually kill him. In some cases where low grade pyrethrum is used, or where it is diluted too greatly with inert materials, the effectiveness in actually eliminating heavy infestations is not good. This has given the impression that roaches may recover from the paralysis induced by the pyrethrum, and led originally to the mixing of other materials, notably sodium fluoride, with the pyrethrum. The fluoride is a much slower killer, but withal a more effective one on roaches, according to the Department of Agriculture. In describing his roach powder and the reasons for using a fluoride-pyrethrum mixture, a manufacturer recently put it very aptly. He said: "We use pyrethrum to kill the roaches quickly, and put in the sodium fluoride to keep them dead."

A WELL-KNOWN entomologist who has had a wide experience with commercial roach powders suggested that a mixture of ninety per cent sodium fluoride with ten per cent of pyrethrum is a good combination from all angles. He did mention, however, that with the present low price of pyrethrum as compared with a year ago, it might be a good idea to increase the pyrethrum content to anything up to one-third as this could be done without greatly increasing the manufacturers' costs. At any rate, he pointed out that the pyrethrum first of all acted as an excitant, causing the roach to run rapidly around in circles and to pick up additional quantities of the powder on his body, and especially on his legs and antennae, the latter being the two long "feelers" with which he is equipped. The excitement of the roach also causes him to clean his legs and feelers at once, which cleaning operation is accomplished by the roach drawing the members through his mouth and practically licking off the powder. This feverish cleaning of his body parts due to the excitement caused by the initial stimulating effect of the pyrethrum, gets the sodium fluoride in the powder into the place where it does its best work,—the stomach.

At any rate, it was indicated that the powders with the higher percentage of pyrethrum were quicker acting, and that the ultimate results were equally as good as when straight sodium fluoride was used. In this connection it is interesting to note that the Department of Agriculture secured 100 per cent kill in 24 hours under laboratory conditions with sodium fluoride making up only 18 per cent of the mixture and the balance inert material. It was also pointed out that the size of the dosage, that is the per cent of fluoride in the powder and the amount of powder which the insect takes in, have a direct bearing on the speed of the kill.

Although the Department of Agriculture has labelled fluoride as the most effective roach killer, its use may of necessity be limited by its toxic character. Some cities have regulations against its inclusion in insecticide powders which are to be used in restaurants, hotel kitchens, grocery stores, or any other places where foods are sold, stored, or prepared. Thus, where a fluoride powder cannot be sold, something else must be available in its place. Straight pyrethrum powder is the product used under such conditions, as it still appears to be the only insecticide material where authorities agree upon its non-poisonous character. It is also interesting to note in this connection, that a straight pyrethrum powder without any other material added is the only product which can be labelled "insect powder," according to the regulations of the Department of Agriculture. Insect powder and pyrethrum are synonymous, according to their definition. Labelling any other powder, or roach powder mixture as "insect powder" subjects the material to seizure under the Insecticide Act of 1910.

Owing to restrictions which may arise in the use of

fluoride roach powders, it is singular that more manufacturers do not pack and market two types of roach powders, the regular type for ordinary use in wash closets, cellars, bathrooms, etc., and a non-toxic type which can be used without fear of food contamination in kitchens, pantries, etc. Of course, the restrictions on the use of fluoride are not general. The blue colored fluoride now sold obviates much of the danger of accidental poisoning. Furthermore, the product carries the endorsement of the Department of Agriculture as a general roach killer, whereas the Department specifically warns against the use of arsenic or mercury bichloride in household roach powders.

NOW that the various formulas have been discussed briefly, the question remains as to what the majority of individuals in the insecticide industry who are sufficiently disinterested to express an opinion, consider the best general roach powder. As far as could be determined, the mixture of two-thirds sodium fluoride and one-third pyrethrum had the most adherents. Owing to lower cost pyrethrum today, there seems to be a tendency to increase the content of this material. It is pointed out that the higher pyrethrum products show up better in the hands of the consumer owing to the rapidity with which they paralyze the insect. It is also held by some that fifty per cent fluoride is wholly effective and that anything over this is unnecessary as the fifty per cent material will kill just as well as the pure fluoride. At any rate, the manufacturer is not restricted by material costs to the extent which was the case a year ago. At present, there is only a difference of five or six cents per pound in the prices of fluoride and pyrethrum. A year ago, pyrethrum prices were almost three times the figure for fluoride.

There are now a few unrelated points left to be discussed. One is the mixing of the powders in the factory. This operation should be done, not in any make-shift mixer available, or by hand with shovels, but in special dust-tight powder mixers and sifters made for the purpose. The mixer used for roach powder, whether it be a small hand operated type for the house doing a local business, or a large power driven powder mixer, should not be used for anything else. The powder when mixed should be sifted, should be fluffy and free from lumps, and should be packaged at once. No loose fluoride powder should be allowed to stand around the plant. It should all be in sealed containers. No barrel or other package of sodium fluoride should be opened and left partly used in the open container. The full container of fluoride should be worked up into finished powder, packaged and sealed. It is no great trick to mix roach powder. The order in which the ingredients are added is of no importance. If the color, however, of the finished powder is not uniform, and shows streaks, it should be put back into the mixer and worked over.

Another point is the addition of food baits to roach powder. Some manufacturers believe it essential to add flour, sugar, starch, or some other food product to their powders so that the roaches will "eat" it. The roaches do not have to eat it. If they walk through it and it gets on their legs or feelers, they will at once clean these members off by drawing them through their mouths whether the powder is sweet, bitter, or what not. This is a habit of the creature. They do not do it any more readily where the powder contains a food than they do otherwise. In fact, if a diluent is required to cut down the content of active ingredients, some substance like talc or any other cheap mineral powdered material is equally as good and is less liable to cause lumping or other troubles through the absorption of moisture.

(*Turn to Page* 115)

Examples of the straight pyrethrum and derris-pyrethrum powders for use against roaches and other crawling insects. Only straight pyrethrum powder can be labelled "insect powder" says the U. S. Department of Agriculture

The Trade Plays Golf

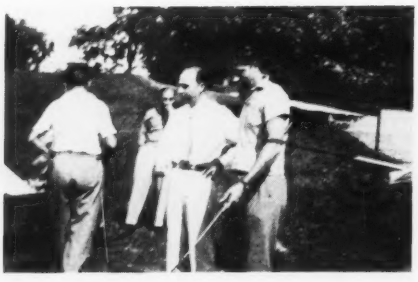
—under the auspices of the Chemical Salesmen's Association at Pomonok, September 17.

Cleary of Barrett—Lloyd of Fergusson—Miller of Barrett and Lind of Dow

Herb Kranich, Kranich Soap

Lowe of Bakelite—Vandewater of R. W. Greeff—R. E. Dorland of Dow—Rossi of Bakelite

Steve Urban, Squibb



Berco of H. H. Rosenthal—Alvarez of Grasselli—Williams of Monsanto, waiting at the 1st tee.

Chas. Kelly, Haggerty Bros.

Gogarty, Commercial Solvents; John Abbott, Merck & Co., on the 18th green.

Jack Leppart, Columbia, golf handicapper.

Kranich-Koch of Dow check the morning round.

The Effect of ANTIOXIDANTS on Highly Concentrated PYRETHRUM EXTRACTS

By C. B. GNADINGER, C. S. CORL, and C. A. CLARK
McLaughlin Gormley King Co.

THE pyrethrum industry sustains enormous losses annually because of the decomposition of the active principles, the pyrethrins. This decomposition takes place in whole flowers, in ground flowers and in some extracts of pyrethrum. It apparently is due to oxidation, although other factors, such as the presence of moisture, may play a part. Light accelerates decomposition; storage at low temperatures inhibits it. The use of antioxidants to prevent this loss naturally suggests itself.

Tattersfield (6) found such well known antioxidants as hydroquinone, resorcinol, pyrocatechol, pyrogallol and tannic acid effective in retarding loss of activity in pyrethrum dusts. Mills and Fayerweather (4) disclose the use of tertiary alkyl substituted ortho-dihydroxybenzenes for preserving pyrethrum products. Hughes (3) prevents decomposition of pyrethrins in freshly harvested flowers by spraying them, after drying, with kerosene or cymene. Voorhees (8) employs amino-anthraquinone compounds for preparing light-stable pyrethrum extracts.

Yates (9) reports that highly refined mineral oils produce pyrethrum extracts which deteriorate more rapidly than those made with lesser refined oils, containing greater quantities of sulfonatable material. He claims, as stabilizers for pyrethrum extracts, substituted aryl compounds in which at least one hydrogen atom of the aromatic nucleus is replaced by an amino, hydroxyl or alkyl radicle. He considers thymol the best stabilizer. Ripert (5) states that certain antioxidants occur naturally in pyrethrum. He attacks the conclusions of Gnadinger and Corl (2) and Tattersfield and Martin (7), who found that pyrethrum deteriorates in storage or on exposure to light. The losses in pyrethrin content found by these investigators are, according to Ripert, not due to decomposition of pyrethrins but are caused by the unsaturated acids present in the flowers. These unsaturated acids, Ripert states, become oxidized and coat the pyrethrin particles, thus rendering them insoluble in petroleum ether.

Experimental

In the course of experiments on the development of highly concentrated extracts, it was found that properly made kerosene extracts of comparatively low concentration (2.5 per cent pyrethrins) were quite stable, (Table I), but extracts of high concentration (10 to 15 per cent pyrethrins) were unstable, during prolonged storage.

Table I. Effect of Storage on Kerosene-Pyrethrum Extracts of Low Concentration.

Manufacturer	Days in Storage 35° C.	—Pyrethrin Content (Seil Method)— One Per Cent	Two Per Cent	Total Per Cent
A	0	1.04	1.45	2.49
A	120	1.07	1.38	2.45
A	275	1.07	1.36	2.43
B	0	0.93	1.41	2.34
B	120	1.00	1.39	2.39
C	0	1.00	1.28	2.28
C	120	0.90	1.19	2.09

Slight changes in the highly concentrated extracts could be detected readily by chemical assay methods, but the detection of such changes in household pyrethrum sprays by these methods was extremely difficult.

By using decalin (decahydronaphthalene)* as the solvent in preparing pyrethrum concentrates, it was possible to avoid interference by antioxidants occurring naturally in kerosene or other mineral oils. At the high pyrethrin concentration used, neither decalin nor kerosene interfered with the use of the copper reduction method for assaying the extracts.

This was proved in the following manner: 30 g. of ground pyrethrum were extracted with petroleum ether (b.p. 20°-60°) in a Soxhlet extractor. The petroleum ether extract was filtered into a 250 cc. volumetric flask and made to the mark. 100 cc. of the extract were

* Patent applied for.

measured into each of two 400 cc. beakers; to one beaker 1 cc. of decalin was added. The petroleum ether was then evaporated and the analyses, by the copper reduction method, were completed in the usual way (1).

The pyrethrin contents found were almost identical, as shown in Table II.

Table II. Effect of Decalin on Determination of Pyrethrins.

Age of Flowers-months	Pyrethrin Content—With Decalin Per Cent	Pyrethrin Content—Without Decalin Per Cent
38	0.58	0.58
35	0.67	0.66
1	0.76	0.77
1	0.84	0.84
6	1.21	1.23

A similar experiment, using 1 cc. of kerosene instead of decalin showed:

	Per Cent
With kerosene	0.98
Without kerosene	0.96

The procedure finally adopted for assaying the decalin or kerosene extracts of pyrethrum, containing 10 to 15 per cent pyrethrins, was:

> Tare accurately, on the analytical balance, a 125 cc. Erlenmeyer flask. Weigh into the flask approximately 1 g. of the concentrated extract; this is conveniently done by means of a quick-draining pipette. The weight taken should be between 0.9900 and 1.1000 g. Add 100 cc. of petroleum ether (b.p. 20° to 60°), mix thoroughly, cork the flask and place in a refrigerator overnight. Then add to the cold solution, 0.4 g. Celite analytical filter acid, mix, let stand for 15 minutes, loosely corked, and filter through a No. 42 Whatman filter-paper (or equivalent) into a 500 cc. Erlenmeyer flask, washing the cork, flask and filter thoroughly with petroleum ether. The filtrate should be perfectly clear. Add a few grains of sand and evaporate the petroleum ether on a steam bath, removing the last traces with a vacuum pump if desired, taking care not to heat the flask above 75°. From this point, proceed with the copper reduction method as directed on page 3062, line 17, *J. Am. Chem. Soc.*, 1929 (1).

The dilution with petroleum ether and chilling overnight eliminate altered or oxidized pyrethrins. Having developed a method of preparing and accurately assaying highly concentrated pyrethrum extract, a number of experiments were made to determine the effect of antioxidants on these extracts during storage.

The effect of storage, at 35°, on highly concentrated pyrethrum extract, without antioxidants, is shown in Table III. The analyses were made by the copper reduction method.

Table III. Effect of Storage at 35° on Concentrated Extracts.

Solvent Used	Original Pyrethrin Content Per Cent	Days in Storage	Pyrethrin Content After Storage Per Cent	Loss of Pyrethrins Per Cent
Decalin	14.1	60	12.4	12.0
Decalin	14.1	120	11.3	19.8
Decalin	14.4	84	10.8	25.0
Decalin	13.5	120	9.9	26.7
Decalin	13.4	97	11.0	17.9
Kerosene	11.5	93	9.8	14.8

Effect of Antioxidants

A concentrated extract was prepared from freshly made oleoresin of pyrethrum using decalin as solvent. Antioxidants were added immediately to different portions of this extract, of identical pyrethrin content, and the resulting solutions were stored in screw-cap, air-tight tin cans, at 35° C. A few of the antioxidants were of unknown composition, being sold under trade names. The concentrated extract was assayed at the beginning and end of the storage period; the extracts containing antioxidants were analyzed after 60 to 120 days in storage. The efficiency of the various compounds is shown in Table IV.

Table IV. Effect of Antioxidants on Decalin-Pyrethrum Extract stored at 35°

Antioxidant—Name	Amount Used* Per Cent	Days in Storage	Pyrethrins Present Per Cent	Pyrethrins Decomposed Per Cent
None, original extract	..	0	14.1	..
Antioxidant No. 5	0.1	60	14.3	none
Antioxidant No. 5	0.1	120	12.3	12.8
Alpha-naphthylamine	0.5	81	13.0	7.8
Hydroquinone	0.1	81	12.8	9.2
Thymol	0.5	82	12.6	10.6
Eugenol	0.5	83	12.3	12.8
Para-aminophenol	saturated sol.	97	12.3	12.8
Monobenzyl para-aminophenol	0.1	85	12.1	14.2
Dibenzyl para-aminophenol	0.1	85	12.1	14.2
Alpha-naphthol	0.5	82	11.9	15.6
Beta-naphthol	0.5	83	11.9	15.6
Diphenylamine	0.5	85	11.9	15.6
Steam distilled pine oil	2.0	85	11.9	15.6
Phenyl-alpha-naphthylamine	0.5	85	11.7	17.0
2-Amino-5-hydroxytoluene	satur'd sol.	97	11.6	17.7
Para-hydroxyphenyl-morpholine	0.1	84	11.4	19.1
Flectol H	0.5	84	10.8	23.4
Lecithin	0.2	97	10.8	23.4
Flectol, White	0.1	84	10.4	26.2
Turpentine	2.0	85	10.0	29.1
None, original extract	..	85	10.8	23.4

* Because of the difficulty of determining solubility in the concentrate it is not certain that all of the antioxidant dissolved, in every case.

Antioxidant No. 5 was effective for 60 days, but not for 120 days. None of the other antioxidants was sufficiently effective under the conditions of storage.

A second decalin-pyrethrum extract was prepared. Part of this extract was stored, without the addition of any antioxidant, in screw-top tin cans and in amber glass bottles at 35° and at 6°. To a second part of this extract, 0.1 per cent of antioxidant No. 5 was added; this solution was stored, in cans and bottles, at 35° and 6°, in air, under partial vacuum (45 mm.) and in nitrogen. The analyses of the different solutions are summarized in Table V.

Table V. Effect of Temperature and Type of Container on Action of Antioxidant in Decalin-Pyrethrum Extract.

Antioxidant—Name	Amount Used Per Cent	Days in Storage	Temp. of Storage °C.	Container	Pyrethrins Present Per Cent	Pyrethrins Decomposed Per Cent
None, original sol.	..	0	..	....	13.4	..
None, original sol.	..	62	35	tin can	10.9	18.6
None, original sol.	..	62	35	amber glass	10.9	18.6
None, original sol.	..	120	35	tin can	9.9	26.1
None, original sol.	..	120	6	tin can	11.6	13.4
Antioxidant No. 5	0.1	62	35	tin can	12.8	4.4
Antioxidant No. 5	0.1	62	35	amber glass	13.0	3.0
Antioxidant No. 5	0.1	97	35	tin can	12.2	8.9
Antioxidant No. 5	0.1	99	6	tin can	12.9	3.7
Antioxidant No. 5	0.1	98	35	partial vacuum	11.8	11.9
Antioxidant No. 5	0.1	98	35	nitrogen filled	12.0	10.4
Antioxidant No. 5	0.1	120	35	tin can	11.5	14.1

*NOTE

With the advent of the completely deodorized Petroleum products, suitable for replacing kerosene in insecticides, the manufacturer has at his disposal a selection of more delicate and agreeable odors. These new vehicles require less perfume per gallon and exhibit truly agreeable odor characteristics at approximately equal costs per gallon.

***NOTE** *from Page 41 of the* **M M & R CATALOG**

ALERT to every change in the industry, M M & R offers a wide assortment of new and pleasing odors . . . more delicate fragrances that will help you sell more of your products.

M M & R perfume bases for your insecticides give you complete coverage, effectively eliminating all unpleasant odors, without impairing the efficiency of the pyrethrin content.

These M M & R products will give you the right results.

for **FLY SPRAYS**

KEROSPRAY ROSE BOUQUET No. 423
(Ideal for Deodorized Kerosene Base)

KEROSPRAY VANILLA BOUQUET
(Invaluable for Dairy Sprays in which Deodorized Kerosene is used)

KEROSPRAY BOUQUET No. 805

KEROSPRAY BOUQUET No. 806
(Especially adapted for covering the odor of regular kerosene)

COLONIAL BOUQUET
(A very pleasant sweet fragrance)

for **PARA BLOCKS**

ROYAL CONIFER BOUQUET
(Very pleasing forest-like odor)

BLUEBELL BOUQUET No. 624
(Fragrant and flowery, good concentration)

ROYAL MINT BOUQUET
(Refreshing, cooling and exceptionally pleasant and novel)

ROSE BOUQUET No. 624
(Moderately priced—very attractive)

ANTISEPTIC BOUQUET No. 31
(Distinct powerful—antiseptic odor)

Samples are available upon request.

Inexpensive Substitutes for Expensive Pure Oils

ANDRO M M & R

To secure the practical value of Oil Citronella Ceylon at a lower cost without loss of efficiency. Also successfully used as a synthetic Oil Citronella Java. It is pungent as the best Ceylon, light in color, free from any tendency to darken soap or soap products, uniform in quality and constant in strength.

OIL LAVENDER COMPOUND "P" M M & R

A splendid substitute for expensive Lavender oil. It will save you money without noticeable change in the quality or scent of fine bath and hand soaps. Manufacturers who wish to avoid the uncertainties of rapid price fluctuations in genuine Lavender Oil should investigate LAVENDER COMPOUND "P" M M & R.

MAGNUS, MABEE & REYNARD, INC.

ESSENTIAL OILS — AROMATIC CHEMICALS — BASIC PERFUMING PRODUCTS . . . SINCE 1895

32 CLIFF STREET, NEW YORK, N. Y. — **444 W. GRAND AVE., CHICAGO, ILL.**

PHILADELPHIA — **BOSTON** — **MEXICO, D. F.**

The extract which contained no antioxidant lost pyrethrins to the same extent in tin and amber glass containers. The loss when stored at 6° was less than half the loss when stored at 35°. The extract containing 0.1 per cent antioxidant No. 5 also lost at the same rate in amber glass and tin containers but the losses were much smaller than in the case of the extract without antioxidant. The loss at 6° was again much lower than at 35°. Storage in partial vacuum and in nitrogen did not prevent decomposition of pyrethrins.

A concentrated kerosene extract was next prepared. Portions of this extract, to which antioxidant was added, were stored in tin cans at 35°, 27°, room temperature and 6°. After about three months in storage the samples were again assayed, with the results shown in Table VI.

Table VI. Effect of Storage on Kerosene Extract of Pyrethrum.

Antioxidant		Temp. of		—Pyrethrin Content—		Loss of
Name	Amount Per Cent	Storage °C.	Days in Storage	Originally Present Per Cent	After Storage Per Cent	Pyrethrins Per Cent
No. 5	0.1	35	93	11.5	10.3	10.4
No. 5	0.1	27	95	11.5	10.8	6.1
No. 5	0.1	Room temp.	95	11.5	11.3	1.7
No. 5	0.1	6	94	11.5	11.6	0.0

The combined effect of the antioxidants (present in kerosene and added) and storage at 6° completely prevented decomposition. There was still some decomposition at higher temperatures, however.

Further storage experiments are in progress employing larger amounts of antioxidants.

Summary

The effects of antioxidants on highly concentrated pyrethrum extracts during storage are described. A procedure for applying the copper reduction method to such extracts is presented.

Literature Cited

1. Gnadinger, C. B. and Corl, C. S. J. Am. Chem. Soc., 51, 3054, 1929.
2. Gnadinger, C. B. and Corl, C. S. Ind. Eng. Chem., 24, 901, 1932.
3. Hughes, W. A. U. S. Patent 1,945,148, January 30, 1934.
4. Mills, L. E. and Fayerweather, B. L. U. S. Patent 1,942,827, January 9, 1934.
5. Ripert, J. Ann. fals., 27, 580-95, 1934; 28, 27-38, 1935.
6. Tattersfield, F. J. Agri. Sci. 22, 396, 1932.
7. Tattersfield, F. and Martin J. T. J. Agri. Sci., 24, 598, 1934.
8. Voorhees, V. U. S. Patent 2,011,428, August 13, 1935.
9. Yates, W. J. Canadian Patent, 343,209, July 17, 1934.

NEW PATENTS

(*From Page* 47)

but less than twenty-one carbon atoms as a constituent thereof.

No. 2,010,512, Antiseptic, Patented August 6, 1935 by Joseph Ebert, Westmont, N. J., assignor to The Farastan Company, Philadelphia, Pa. An antiseptic comprising an ortho-hydroxy-quinoline salt and a disazo compound formed by coupling a disazotized diamine nucleus with a substituted aromatic amine and a substituted aromatic carboxylic acid, the substituents not including inorganic residues.

No. 2,010,910, Dental Cleaning and Polishing Compound, Patented August 13, 1935 by Malcolm W. Atkins, Worcester, Mass. A dental compound, containing as a cleaning and polishing agent Bayer process alumina.

No. 2,011,129, Soap Cake, Patented August 13, 1935 by Gordon Voorhis, New York, assignor to Standard Soap Pulverizer, Inc., Rhinebeck, N. Y. As a new article of manufacture a cake of soap of rectangular cross section with a single, relatively wide groove of uniform cross section in the form of a right angled isosceles triangle with its apex at the bottom of the groove and a depth approximately one half the thickness of the cake, running lengthwise of one face thereof; whereby when a series of such cakes are stacked end to end with the grooves in line channels of equivalent large cross section are thereby formed permitting the free circulation of air through the mass, and when inserted in a shedding and dispensing apparatus having a V-shaped guide rib closely fitting into the groove, such cake may be firmly held in position under stresses of the shredding operation and accurately guided in its cooperation with the shredding apparatus.

No. 2,011,428, Light Stable Insecticide, Patented August 13, 1935 by Vanderveer Voorhees, Hammond, Ind., assignor to Standard Oil Company, Chicago. A composition capable of forming an emulsion with water and effective as an anti-parasitic spray for plants, comprising a mineral oil, the oil soluble extract of pyrethrum and a substituted amino anthraquinone.

No. 2,012,862, Soap Cake, Patented August 27, 1935 by Theodore Backen, Brooklyn. In an article of manufacture, a cake of soap, comprising two sections, one section of a toilet soap quality and being of a substantially rectangular shape, and the other section of a scouring soap quality, the latter having its body portion formed in an accordion-like manner, the two sections being separated by means of a groove of a substantial depth arranged in the soap section of the toilet quality, the wall of the groove adjoining the section of the scouring soap quality being also of the soap section of the toilet quality, the accordion-like shaped portion comprising pieces partly separated from one another by means of grooves therebetween, thereby permitting separation individually of the scouring soap pieces.

Evans Manufacturing Co., dealing in a floor wax and a floor waxer, has recently signed a stipulation prepared by the U. S. Federal Trade Commission, agreeing to abandon advertising that the device works as efficiently as any $50 machine and that sales persons will earn any amount "just for demonstrating" the machine. The stipulation points out that agents do not receive anything for demonstrating the device and that contrary to the respondent's advertising, the device is not worth $14.10 and is not sent "free" to agents. Furthermore, according to the stipulation, the article is not as efficient as any $50 machine.

CONTAINER
BY
CONTINENTAL

Lifted OUT OF THE COMMONPLACE TO *BREAK DOWN* THE FIRST LINE OF SALES RESISTANCE

THE CREATION of "packaging to sell" has been the business of the Continental Can Company for 29 years—developing original designs more satisfactory from the standpoints of sales, utility, convenience and economy. Continental research includes *all* the functions of a container.

Do you have a packaging problem? Are you satisfied that your present package does not lack sales appeal? Do competitive products have a packaging advantage? Is your product properly protected—easily accessible?

Whatever the question: we suggest that you write, wire or phone for a practical demonstration of our development service.

"It's Better Packed in Tin"

CONTINENTAL CAN COMPANY

NEW YORK CHICAGO SAN FRANCISCO

Disinfectant Specifications

PROPOSED new specifications for coal-tar disinfectant and chlorinated disinfectant have been drawn by the purchasing department of the City of New York to cover purchases of disinfectants. These tentative specifications were discussed at a meeting at the Central Testing Laboratory in New York on Sept. 24. Their issuance at this time serves to emphasize the fact that there are no complete standards either of the Federal Government, the National Association, or the industry which have any general recognition. There are numerous specifications for disinfectants for individual companies, institutions, cities, states, etc., but they are all different. The need of a single specification for each type and grade of disinfectant,—a uniform standard for both governmental and commercial purchasing of disinfectants with national recognition, standards already set up which can be adopted by individual purchasers and which will guide manufacturers,—has been pointed out. It has been suggested that such a complete set of specifications should be drawn up by a committee of the National Association of Insecticide & Disinfectant Manufacturers, working in conjunction with large purchasers and the Federal Government.

In order to show the variation in specifications, those of two well-known buyers, The Ford Motor Co., and Chrysler Motors, are given here along with the specifications which New York City proposes to adopt.

Chrysler Coal Tar Disinfectant
(For Factory Use)

1. This specification covers a Coal Tar Creosote Disinfectant for use in the factory only. Disinfectant is placed in the water used for scrubbing and mopping floors, washing seat bowls and seat bowl tops, urinals, cuspidors and for general disinfecting. This material is **not** intended for use in Office Buildings where a strong odor would be objectionable, and for which purpose another disinfectant is available. (N. P. 8451.)

The mixture recommended for use is 1 ounce of disinfectant to 1 gallon of water, or approximately one third of a cupful of disinfectant to a 3 gallon pail of water.

2. Disinfectant shall be made from pure Coal Tar Creosote Oil. Adulterants, such as Mineral Oil or water Gas Tar Oil shall not be present.

3. This material shall meet the following specifications:
   Specific Gravity ..... **1.02 to 1.04 at 60°** Fahr.
   Phenol Co-efficient ..... **2 to 3**
   Inert Substance (Water) . . **Max. 10%** by weight
   Shall not show crystallizable matter at temperature of 32° Fahr. or above.

Material to be tested according to U. S. Hygienic Laboratory Method.

4. Disinfectant, when mixed with water in the proportions of 1 part disinfectant to 20 parts of water, or 1 part disinfectant to 128 parts of water must make a milk white solution. This solution, when left standing for a reasonable time (one hour or more) must not show oily float or settlement.

5. Each drum of disinfectant shall have the manufacturer's guaranteed Phenol Co-efficient plainly marked on the top or head of the drum.

6. A sample of disinfectant conforming to this specification will be required as a part of any contract proposal.

7. Disinfectant shall be purchased only from approved sources.

Chrysler Pine Disinfectant
(For Office Use)

1. This specification covers a Pine Tar Disinfectant for use in Office Buildings only. Disinfectant is placed in the water used for scrubbing and mopping floors, washing seat bowls and seat bowl tops, urinals, cuspidors, and for general disinfecting. This material is **not** intended for use in Factory Buildings where a Coal Tar product would be suitable, and for which purpose another disinfectant is available. (N. P. 8450.)

The mixture recommended for use is 1 ounce of disinfectant to 1 gallon of water, or approximately one-third if a cupful of disinfectant to a three gallon pail of water.

2. Disinfectant shall be made from pure, steam distilled Pine Oil of not less than 60% by volume in the finished product. Adulterants, such as Mineral Oil or dilutions of any kind shall not be present. The finished product must have the characteristic odor of steam distilled Pine Oil.

3. This material shall meet the following specifications:
   Phenol Co-efficient ..... **3 to 4**
   Inert Substance (Water) . . **Max. 10%** by weight

Material to be tested according to U. S. Hygienic Laboratory Method.

4. Disinfectant when mixed with water in the proportions of 1 part disinfectant to 20 parts of water, or 1 part of disinfectant to 128 parts of water must make a milk white solution. This solution when left standing for a reasonable time (one hour or more) must not show oily float or settlement.

5. Each drum of disinfectant shall have the manufacturer's guaranteed Phenol Co-efficient plainly marked on the top or head of the drum.

6. A sample of Disinfectant conforming to this specification will be required as a part of any contract proposal.

7. Disinfectant shall be purchased only from approved sources.

Ford Disinfectant

The material desired (when used in a diluted form) should be non-corrosive, non-injurious to fabrics, rubber, leather, wood, etc. Same shall conform to the following:

1. Must not solidify or separate at temperature of 20°F. or above.

2. Must dilute with water or oil and form a practically perfect emulsion or solution.

3. May consist of coal-tar-ceosote, cresol, phenol or analogous compounds.

4. Must have a phenol coefficient according to U. S. Hygienic Laboratory Method of not less than 5.

5. Material will be valued on the unit cost of efficiency as a disinfectant taking phenol as a standard.

Material should be shipped in 50 gallon steel drums, properly marked with the specification number, name of material and "Phenol Coefficient" printed thereon.

A checking slip bearing complete information such as outlined under "Shipping" shall accompany all shipments. Same should be written with waterproof ink and enclosed in a waterproof envelope. In carload lots, checking slips should be tacked inside of car, near door.

Material will be received subject to laboratory analysis. Material not conforming to the above requirements will

be subject to rejection for full credit or replacement, at our option.

Disinfectant for Surgical and Laboratory Use
(Proposed for New York City)

1. It is the intent of this specification to call for a Disinfectant for surgical and laboratory use that shall meet all the requirements herein specified.

2. The disinfectant shall be a homogeneous liquid at 32° Fahr. It shall be miscible with cold water in all proportions, yielding a clear uniform solution showing no sediment or settling out after standing one hour at room temperature. It shall be ready for dilution when delivered and shall require no intermediate operation. It shall be compatible with a 5 per cent soap solution (green castile soap as per specification 5-S-22D.) and Albumin (U.S.P. test solution).

3. (A) It shall have a minimum phenol coefficient, in the absence of organic matter of from 3 to 6, *as called for in the schedules.*

(B) The phenol coefficient shall be determined in accordance with the official test of the U. S. Food and Drug Administration.

4. Not less than 5 per cent of the number of containers offered in delivery, shall be taken at random for sampling by the City. These samples shall be placed in clean, dry glass bottles, rubber corked tightly and kept in a cool dark place. They shall be thoroughly shaken before testing.

5. The disinfectant shall be subjected to inspection at the place of manufacture and or at the point(s) of delivery.

6. (A) The bidder shall submit with his bid the certificate of test of the form attached to this specification. This certificate shall be duly executed and signed by the head of a nationally recognized laboratory. Failure to submit such certificate will cause rejection of bid.

NOTE: If the bidder has on file in the Department of Purchase a certificate of test of the brand on which he is bidding, he need not furnish any other certificate with his bid.

(B) The furnishing of such certificate shall not in any way be considered as affecting the right of the City to make check tests upon delivery and make rejection or acceptance accordingly.

7. Each container shall be marked with the name of the material, the brand of material, the name of the manufacturer and quantity contained therein.

8. (A) The disinfectant shall be delivered in standard commercial containers of the size **as called for in the schedules.**

(B) All containers of less than 5 gallons capacity shall become the property of the City of New York. Containers of 5 gallons or more shall remain the property of the bidder and shall be removed at his own expense when empty.

9. (A) Delivery shall be made **as called for in the schedules.**

(B) With each delivery, the manufacturer shall furnish direction sheet showing proper dilution. One such direction sheet shall accompany each container.

(C) Delivery will be accepted only between the hours of 9.00 A.M. and 4 P.M., unless otherwise agreed to.

10. Payment shall be made for the number of gallons accepted at the price bid per gallon.

Disinfectant, Deodorant and Germicide
(Sodium Hypochlorite Type)
(Proposed for New York City)

1. It is the intention of this specification to call for a Sodium Hypochlorite disinfectant, deodorant and germicide for use by the City of New York.

2. The Sodium Hypochlorite solution shall be a homogeneous liquid at 32° Fahrenheit. It shall be miscible with cold distilled water in all proportions, yielding a uniform solution showing no sediment or settling out after standing one hour at a temperature of 60 to 70° F. It shall be ready for dilution when delivered and shall require no intermediate operation.

3. (A) It shall have an available chlorine content of not less than 4.5% and not more than 7.0% as determined by arsenious acid titration method. If the Sodium Hypochlorite disinfectant shows in excess of 9% upon delivery, it will be rejected without further examination. It shall be of such stability that if stored in original containers, or in tightly stoppered and sealed amber glass bottles, for six months, in a cool dark place, it shall still contain not less than 4.0% available chlorine. Should it, when tested, six months after delivery, contain less than 4.0% available chlorine a deduction of 25.0% in payment for the whole delivery, shall be made for each percent or fraction of one per cent, below the 4.0% available chlorine.

(B) It shall show on analysis at time of delivery and also after six months a free alkali content calculated as sodium hydroxide of not more than 11% of the available chlorine content.

NOTE: The City of New York reserves the right to substitute for the six months check an accelerated time test by use of the mercury vapor lamp in the event a suitable test is developed.

4. The Sodium Hypochlorite shall be subjected to inspection at the place of manufacture or at delivery points or at both places.

5. A composite sample from not less than 5 per cent of the number of containers offered in delivery, shall be taken by the City and placed in a container furnished by the vendor with each delivery. This sample shall be kept in a cool dark place until tested.

(Paragraphs 6 to 10, similar to above.)

ONLY the first two specifications in the series which the city is planning to adopt were discussed at the meeting, September 24th, presided over by Dr. Stroud Jordan. Other specifications now in preparation will be talked over with the industry in similar manner before they are put in final form. It is understood that additional specifications are being drawn covering liquid insecticide, disinfectant for general cleaning, boiler compound and pine oil disinfectant. The work of preparation is in charge of B. Stahle of the Specifications Division of the City Purchasing Department. It is understood that work on the insecticide specification will be suspended, at least temporarily, on the request of Dr. Wright, pending action by the National Association of Insecticide and Disinfectant Manufacturers at the December meeting. The present draft of the specification for pine oil disinfectant, subject to later revision, is as follows:

Pine Oil Disinfectant

1. It is the intent of this specification to call for a pine oil disinfectant, which shall comply with all the requirements of this specification and the Insecticide Act of 1910.

2. The Pine Oil Disinfectant shall be made from pure steam distilled pine oil, and either rosin or vegetable oil soap, with water as the only inert matter. When the Pine Oil Disinfectant is made with rosin soap it shall contain approximately 70% steam distilled Pine Oil, 21% rosin soap and not over 9% water; when made with vegetable oil soap, the percentage of soap may be as low as 9% and water as high as 21%.

3. All chemical tests shall be made in accordance with standard methods of tests used by the Department of Purchase Laboratory.

4. The Pine Oil Disinfectant shall be a homogeneous liquid at 32° F. It shall be miscible with water in all proportions, yielding a uniform solution showing no sediment or settling out after standing one hour at room temperature and shall show no sign of reparation of oil, floating on the top.

5. (A) It shall have a phenol coefficient of from 3 to 4 **as called for in the schedules.**

(B) The Phenol Coefficient shall be determined in accordance with the official test of the U. S. Food and Drug Administration.

(Paragraphs 6 to 12, similar to above.)

Relative Toxicity of Pyrethrins I and II

By DR. JEAN RIPERT and OLIVIER GAUDIN
Gennevilliers, France

THANKS to the method of Staudinger and Ruzicka, we have been able to prepare a quantity of pure pyrethrins I and II, showing the physical and chemical characteristics described by these authors. However, the toxicity of the prepared pyrethrins was so much less than that of a mixture of pyrethrins extracted from pyrethrum by physical means that we gave up these products and prepared pure pyrethrins by strictly physical operations.

According to the principle set forth by one of us (1) we carried out the extraction by means of petroleum. We thus obtained, after a first operation, a mixture of pure pyrethrins I and II containing 50 per cent of pyrethrin I and 50 per cent of pyrethrin II. Pyrethrin II was extracted from this basic product through fractionated washings with methyl alcohol at 82°., 50 gr. of the pure pyrethrin mixture being taken and dissolved in one litre of pure pentane. Said solution is washed five times successively with 500 methyl alcohol at 82°. The alcohol is hydrated and the pyrethrin extracted then by petroleum ether (pentane). This solution in petroleum ether, after being dried with sodium sulfate, is cooled to a temperature of —50°, and pyrethrin II precipitates. After taking up in petroleum ether and fresh cold precipitations, Pyrethrin II is taken up in chloroform. It shows a purity of 98.9 per cent.

The petroleum ethers enrich themselves with pyrethrin I and are also cooled at —20°. Pyrethrin I remains in solution in petroleum ether and obtains 96 per cent purity.

With these pyrethrins and their mixture we have measured, my means of the method of one of us, the toxicity on fishes (2). We found out that the excitement and turning-over process of the fish, taken as a test with this method, was caused solely by pyrethrin II, while pyrethrin I brings out in the fish a slow paralysis without an excitement period. Such results led us to abandon this test material and we measured the toxicity on the frog according to Trevan's Method. With this method we found that, in order to obtain a mortality of 50 per cent, it was necessary to inject, in the present condition of our frogs, 0.75 mg of pyrethrin II per kilogram of animal, 0.8 mg of pyrethrin I and 0.66 mg of a mixture containing 50 per cent pyrethrin I and 50 per cent pyrethrin II. Such measurements on frogs indicate that pyrethrin II is slightly more toxic than pyrethrin I and that the pyrethrin mixture is more toxic than each one of the two isolated pyrethrins. (Extract from "Comptesrendus des Seances de l'Academie des Sciences," t. 200, P. 2219, Seance du 24 Juin 1935).

(1) J. Ripert, Annales des Falsifications et des Fraudes, No. 283-284, 1932, p. 395.
(2) O. Gaudin & B. Carron, Bull. Societe de Therapeutique, 14eme Serie, 38, 1933, p. 75.

FRANKLIN RESEARCH CO. MOVES

Franklin Research Company has announced the removal of its factory and office to a new location in Philadelphia at 5134 Lancaster Avenue. This move to larger quarters was a necessity since the production department has been operating for over a year on a 3 shift 24 hour a day schedule. The new plant was especially built for the company and contains over twice the floor area of the old plant. Due to improved equipment and the most modern machinery, the production capacity has been increased by approximately five times. During the past year 3 new items have been added to the Franklin Research Company's line of nationally advertised floor maintenance materials, and the company is planning the addition of several more products to completely round out their line. The company also manufactures shoe polish.

Flower heads from the Dalmatian variety of pyrethrum grown in the North Auckland district of New Zealand contained 0.33 per cent of total pyrethrins. Flowers from the Japanese variety contained 0.74 per cent. W. Donovan. New Zealand Dept. Sci. Ind. Research, 8th Ann. Rept., 36-7.

Larvae of horseflies in the backs of cattle can be killed by rubbing the swelling with a very dilute unfiltered aqueous suspension of derris powder made of ¼-1 kg. of powder to 10 liters of water, depending on the rotenone content. Dry derris powder mixed with talc is effective against fleas and lice on dogs and cats. W. Spoon. *Ber. Afdeel. Handelsmuseum Ver. Koloniaal Inst.*, No. 95, 12 pp. (1935).

Anti Rat Roach & Termite Co., formerly at 3933 Montgomery Ave., Cincinnati, has moved to 2412 Harris Ave.

Exterminators To Meet in Detroit

THE National Association of Exterminators and Fumigators will hold its annual convention on Oct. 21-22-23, in the Hotel Statler, Detroit. Invitations are extended to everyone interested, both members and non-members. There will be various forms of entertainment for the guests and their wives including card parties, style shows, theatres, and some interesting sight seeing trips. The feature sightseeing trip will be taken by the entire convention through Henry Ford's Greenfield Village. There will also be a trip through the Edison Institute.

C. Norman Dold is chairman of the convention committee, with C. Russell Lee, general chairman, in charge of arrangements in Detroit. The members of the committee are as follows: Woodruff B. Cram, secretary; M. R. Van Auken, treasurer; J. N. Seidman, G. York Heystek, Alfred Goulet, advertising and finance; W. J. Stover, N. Akervall, Melvin Goulet, attendance and registration; Arthur Goulet, D. M. Carey, R. Bechtel, entertainment; Harlem Ives, Geo. Hemmert, H. Barsamain, publicity; Mrs. Viola Russell and Mrs. Howard Mix, woman's committee.

The complete program for the three days has been scheduled as follows:

OCTOBER 21, 1935

A. M. *MORNING*

9: to 10:00—Registration.
10:05—Convention called to order—C. Norman Dold, general chairman—convention committee, Rose Exterminator Company, Chicago.
10:15—Address of Welcome—Frank Couzens, Mayor of Detroit.
10:30—Response—Wilbur F. Smith, Alderman Co., Pasadena.
10:35—Greetings from Michigan Association of Exterminators and Fumigators—C. Russell Lee, Crusader Co., Detroit.
10:45—Response—Max Levy, Twin City Exterminating Co., St. Paul.
10:50—Address of President—Thomas C. Raley, Getz Exterminators, Inc., St. Louis.
11:05—Report of Secretary—William O. Buettner, Oscar G. Buettner & Son, Inc., Brooklyn.
11:15—Report of Treasurer—H. K. Steckel, Tornado Manufacturing Co., Columbus, Ohio.
11:20—General Business:
Committee Reports—Appointment of Committees—Announcements.
12:00—Address:
"Public Health Aspects of Insect and Rodent Control"—Major Joel I. Connolly, Board of Health, Chicago.

P. M. *AFTERNOON*

1:00—Luncheon.
2:00—Reconvene—Thomas C. Raley, presiding.
Addresses and Discussion.
Theme; "House Pests."
2:10—"Rats"—M. G. Jorgenson, Jorgenson Co., Los Angeles.
2:45—"Possibilities of Household Pest Control With Derris and Pyrethrum"—Dr. R. C. Roark, in charge of Insecticide Investigations, Bureau of Entomology, United States Department of Agriculture, Washington.
3:45—"Ten Questions and Answers"—Dr. Alfred Weed, John Powell & Co., New York City.
4:30—"Problems Encountered in the Control of Commercial Exterminating and Fumigating Practices—F. Gardner Legg, chief sanitary engineer, Detroit Board of Health.

P. M. *EVENING*

7:30—"Products Night"—led by William O. Buettner. Manufacturers and supply houses having exhibit space, will explain features of their displays.

OCTOBER 22, 1935

A. M. *MORNING*

9:30—Convention called to order—Thomas C. Raley presiding.
Addresses and Discussion.
Theme; "Fumigation."
9:45—"Fumigation"—Dr. C. L. Williams, United States Public Health Service, New Orleans.
10:45—"Killing Rats With Calcium Cyanide"—Dr. George Chapman, American Cyanamid Co., New York City.
11:45—"Sodium Cyanide, Its Manufacture and Properties"—J. C. Pickard, E. I. DuPont de Nemours & Co., Wilmington, Del.
11:45—"Chloropicrin and the Modern Fumigator"—C. C. Johnson, Innis Speiden & Co., New York City.
1:00—Luncheon.

P. M. *AFTERNOON*

2:00—Convention reconvenes—Thomas C. Raley presiding.
2:10—Addresses and Discussion.
Theme; "Termites."
"Termites and Preliminary Report of Investigations Being Conducted—Dr. Thomas E. Snyder, United States Department of Agriculture, Bureau of Entomology and Plant Quarantine, New Orleans.
3:10—"Practical Termite Experience With Emphasis on Questions and Answers"—George Uhler, Antimite Co., St. Louis.
4:00—General Business.

P. M. *EVENING*

7:30—Round Table Discussion and Smoker—Led by H. K. Steckel.
Movies and other features to be announced.

OCTOBER 23, 1935

A. M. *MORNING*

9:30—Convention called to order—Thomas C. Raley, presiding.
9:35—General Business.
Election of officers and directors—Date and location of next convention.
Addresses and Discussion.
Theme; "General Welfare of Our Industry."
10:00—"Importance of Our Profession"—Al Cossetta, *Exterminators Log*, Kansas City.
10:25—"Ethics"—Ira P. MacNair, *Soap*, New York.
10:40—General Business.
Consideration of Report of Committee on Legislation and Insurance—Dr. Ernest D. Wilson, New York.

P. M. *AFTERNOON*

2:00—Sightseeing trip to Greenfield Village.

EVENING

7:00—Annual Banquet—Jesse M. Miller, regional vice-president for West Coast, Hollywood, California, Toastmaster.
8:15—Remarks by president and secretary.
8:30—Dr. Galen S. Ross, Educational Director, Detroit.
9:00—Dancing.

THE TOXICITY OF ROTENONE

Glaser's equation is the most nearly applicable of those examined to the concentration-survival time curves obtained in studies with rotenone and related compounds in which the goldfish was the test animal. This equation is too difficult to use in making simple comparisons of the toxicity of these compounds. The minimum product of concentration and survival time is proposed as a criterion for comparing toxicities. This gives a value at the point of greatest efficiency with respect to concentration and time and it is comparatively easy to determine.

The toxicity of rotenone and 7 of its derivatives was compared under conditions corresponding to the minimum value of the "concentration-survival time" product. At 27° C. the relative toxicities to goldfish were: Dihydrorotenone 1.4, rotenone 1.0, acetyldihydrorotenone 0.81, acetylrotenone 0.55, dihydrorotenolone 0.15, rotenolone 0.097, acetyldihydrorotenolone 0.082, and acetylrotenolone 0.055. Each change in chemical composition of the compounds effects a characteristic change in toxicity independent of the effect of any other change. The dihydro derivatives produced by saturation of the double bond in the side chain with hydrogen have 1.5 times the toxicity of the corresponding unsaturated compounds. The acetates, whether of the enol type or the acetyl derivatives of the hydroxy compounds, have 0.56 the toxicity, and the hydroxy derivatives 0.10 the toxicity of the parent compounds. The combined effect on toxicity of more than one change in constitution is equal to the product of the individual effects. W. A. Gersdorff. *J. Agr. Research* **50,** 881-91, 893-8 (1935).

—— ♦ ——

The toxicity of derris root to aphids does not always bear a relationship directly proportional to the rotenone content, especially in samples containing large amounts of rotenone. When efficient wetting agents are used, 0.5-1 pound of derris root, analyzing approximately 5 per cent of rotenone and 18 per cent of effective acetone extractives, and 0.25-0.5 pint of commercial acetone extract containing about 5 per cent of rotenone and 16 per cent of extractives per 100 gallons of spray, are required to obtain 90 per cent kill or better. The rate of kill was considerably slower when derris was applied as dust than when used either as an aqueous suspension or an extract. The combination of derris with lead arsenate, lime or sulfur compounds caused a reduction in toxicity of 10-40 per cent. The use of suitable wetting agents overcame the reduction in toxicity. The admixture of derris with lime-sulfur sprays produced a reduction in effectiveness of 15-20 per cent even in the presence of a wetting agent. Joseph M. Ginsberg and Philip Granett. *N. J. Agr. Expt. Sta., Bull.* **581,** 2-12 (1935).

—— ♦ ——

Centry Exterminating Co., Brooklyn, has moved from 377 Atlantic Ave. to 1465 Fulton St.

ANNUAL MEETING DEC. 9-10 AT WALDORF

The annual meeting of the National Association of Insecticide and Disinfectant Manufacturers will be held this year on December 9 and 10 at the Waldorf-Astoria Hotel, New York, according to a decision of the Board of Governors at a special meeting held on Sept. 11 at the Penn A. C., Philadelphia. General arrangements for the 22nd annual meeting will be in charge of John Powell of John Powell & Co., New York, and treasurer of the Association. The program committee will be headed by H. W. Hamilton of the White Tar Co., Kearny, N. J. Entertainment will be in charge of Grant A. Dorland of the MacNair-Dorland Co.

At the meeting of the Board of Governors, presided over by the Association president, Charles P. McCormick, head of McCormick & Co., Baltimore, arrangements were made for drawing up a practical specification for liquid household insecticide to be submitted to the Association for approval at its annual meeting in December. This work is being undertaken by Dr. Robert C. White of the Robert C. White Co., Philadelphia, in conjunction with members of scientific committees.

The Board also went on record as intending to oppose in all states, municipalities, and elsewhere, any classification of pyrethrum household sprays as anything but non-poisonous, and to fight to sustain legally if necessary the non-poisonous classification of this type of insecticide product.

Those who were present at the meeting in addition to President McCormick, were W. B. Eddy of the Rochester Germicide Co., Rochester, N. Y.; W. G. Griesemer of Black Flag Co., Baltimore; John Wright, secretary; John Powell of John Powell & Co., New York; Dr. George Reddish of the Lambert Pharmacal Co., St. Louis; Dr. Robert C. White of the Robert C. White Co., Philadelphia; Samuel H. Bell of the S. H. Bell Co., Pittsburgh; S. C. Kelton of Rohm & Haas, Inc., Philadelphia.

—— ♦ ——

Scher Bros., chemical manufacturers, Paterson, N. J., moved October 1 from their old location at 190 16th Ave., Paterson, to a much larger plant and warehouse at Twenty-first and Railroad Avenues. At the new location they have a railroad siding to facilitate handling of carload shipments.

Sheep Dips

Products for the treatment of sheep parasites,—a short discussion of their composition, uses, and purposes,—arsenious dips compared to coal-tar dips,—how these products are controlled in England as compared with the U. S.—an article by Harold Silman of London to be published in December SOAP.

F. T. C. CHECKS EXTERMINATING SCHOOL

False and misleading advertising practices will be discontinued by the National School of Exterminating, of Springfield, Mass., under a stipulation entered into with the Federal Trade Commission. Selling a correspondence course of instruction in the extermination of bugs and vermin, the respondent agrees not to make unmodified representations of earnings in excess of the average earnings of its students or graduates achieved under normal conditions in the due course of business, and not to represent as a chance or opportunity the making of any amount in excess of what has actually been realized by one or more of its students under normal conditions. The Commission found the respondent unable to furnish it with the names and addresses of any of its graduates who have earned the amounts indicated in advertisements.

—— ♦ ——

Application of William F. Sandweg, St. Louis, for registration of the words, "Red Indian," as a trademark for an insecticide has been denied by the U. S. Patent Office, following opposition by the Robert C. White Co., Philadelphia. The White company uses on the same product a mark consisting of the word "Punsit" together with a picture of an Indian in red. Richard Spencer, first assistant commissioner at the Patent Office, ruled that granting the application of Mr. Sandweg might result in confusion in the trade.

—— ♦ ——

For the determination of rotenone in plant materials the following method was found most accurate: Cover 50 grams of the powdered material in a 500 cc. beaker with 250 cc. of chloroform and leave for 6 hours, stirring occasionally. Filter into a 750 cc. Erlenmeyer flask, wash the residue with 50 cc. of chloroform, extract overnight with another 100 cc. of chloroform and wash twice with 50 cc. of the same. Evaporate the united filtrates to a small volume and distill off the remainder of the chloroform in a 100 cc. Erlenmeyer flask, with the final heating in a carbon dioxide stream. Treat the residue with 20 cc. of carbon tetrachloride and dissolve by heating under a reflux. On cooling, the rotenone-carbon tetrachloride compound crystallizes. Let stand on ice overnight, filter, wash the crystals with 15 cc. of carbon tetrachloride saturated with rotenone, dry and weigh. The weight in grams times 1.44 gives the rotenone content of the original material. Typical analyses for derris root gave up to 13.8 per cent of rotenone. P. A. Rowaan. *Chem. Weekblad* **32**, 291-5 (1935).

—— ♦ ——

A subscriber to SOAP wants to locate the manufacturer of an automobile polish marketed under the name of "Dam-R". The publishers will appreciate receiving this information at 254 West 31st Street, New York.

—— ♦ ——

Acme Fumigating Co., Los Angeles, is now in new quarters at 2919 Walton Ave.

PYRETHRUM TESTS UNSOUND,—SAYS RUZICKA

Present chemical methods for testing pyrethrum are built upon a very flimsy scientific framework, and in most respects are misleading and unsound, according to Dr. Leopold Ruzicka, internationally famous organic chemist and European authority on pyrethrum chemistry. Dr. Ruzicka who is head of the chemical department at the Eidgenossische Technische Hochschule at Zurich, Switzerland, was interviewed just prior to his sailing for Europe late last month by a representative of *Soap*. He returned to his university duties after spending three months in the United States, most of which time was given to lecturing at the University of Chicago.

Dr. Ruzicka specifically criticized the modified acid method and the copper reduction method for pyrethrin determination as scientifically useless. He stated that the conclusions drawn from the results of these tests have no true basis in chemical fact, that the wide variation in results of different operators is evidence of faulty methods, and that neither method is proof against sophistication. He pointed out that the presence of an abietic ester, or possibly some fatty acid or other ester, either as an impurity, or by accident or design, would appear in the result as pyrethrin and render it useless. He labelled the methods as commercial make-shifts and termed them "quick and dirty."

The semicarbazone method was commented upon by Dr. Ruzicka as being nearer to a scientific procedure for the determination of pyrethrins, but this too is subject to the possibility of error if ketone impurities were present, he admitted. Also, he stated, this method requires a minimum of thirty hours for completion. When it was pointed out to him that this might not be considered practicable for use by commercial laboratories, he was emphatic in answering that present methods were "practical" at the expense of truth.

The outstanding work on the chemistry of pyrethrum being done today, in the opinion of Dr. Ruzicka, is that by LaForge and Haller of the Insecticide Division of the U. S. Department of Agriculture in Washington. The work of these two Government chemists is along the right line and they are approaching the problem in an altogether scientific spirit, unhampered by commercial considerations, said Dr. Ruzicka. They have already isolated pure pyrethrin II. In this connection, Dr. Ruzicka stated that there was no certainty whatever of the structural formulas of the pyrethrins in the light of present knowledge. His work over the next year in Zurich will be in studying the structure of the compounds. He was enthusiastic in his praise of Haller and LaForge and said that their ultimate object was to work out insecticide standards for the U. S. Government based on their present research. Among others, he also mentioned the work of Dr. Jean Ripert of Gennevilliers, France, and stated that he believed Dr. Ripert was on the right track in developing a new method for pyrethrin determination. Dr. Ruzicka will return to the United States late in 1936 for a series of lectures at Harvard University.

BREUER'S TORNADO ELECTRIC SPRAYERS

gets you reorders because they are the most efficient and durable insecticide sprayers ever built. Supply your customers with the best.

The New Tornado Model 36

Automatic Time Switch—Volume Air Control

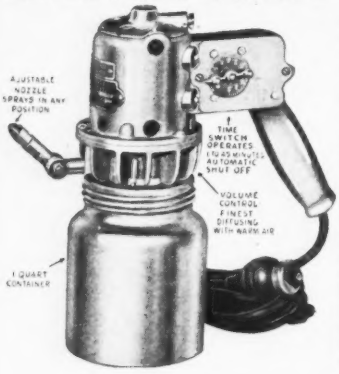
One Gallon Capacity, 1-3 H.P. G. E. Universal Motor

Here is the finest sprayer ever built. Similar to the now widely used Tornado Model 54 and retaining the automatic time switch, volume air control and adjustable nozzle features, the new Model 36 will spray a big volume of insecticide great distances in finest gas formation.

The patented principle of heating and compressing material does the trick. Just the sprayer you need for covering large distances and penetrating with the finest gas every possible source of insect existence.

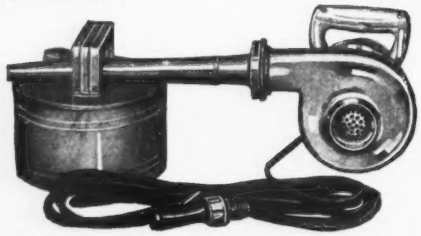
Get the facts on this sprayer before buying!

Also most complete line of electric sprayers to meet every spraying problem.



MODEL 54—1 QT. CAPACITY It features an automatic time switch set at any point from 1 to 45 minutes—sprays desired amount without any attention whatever — automatically shuts off. Can also be used for hand spraying. Adjustable nozzle can be set for spraying in any position. Also exclusive volume control adjustment permits spraying one ounce every two to four minutes with either fine or heavy spray. MODEL 53 same as Model 54 except does not have automatic time switch or adjustable nozzle.

Model 50 Fan Type unit. A fine insecticide atomizer. Sprays distance of 8′ to 10′. 1/8 H.P. G.E. Universal Motor, 1 pint glass jar. 20′ of rubber covered cable.



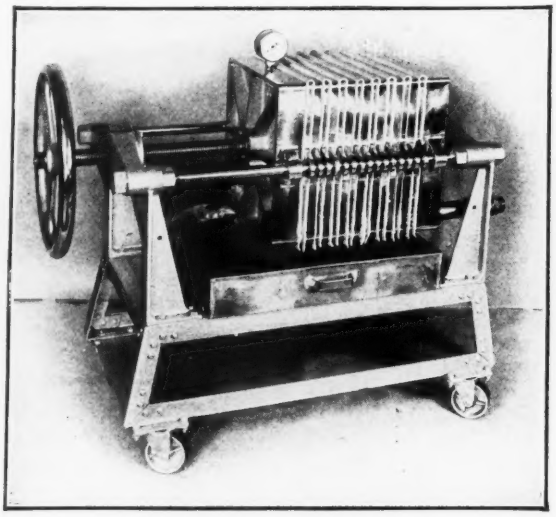
Model 6 Fan Type unit. Will break insecticide into a very fine mist. Sprays 18′ to 20′. 1/3 H.P. G.E. Universal Motor. Norma Ball Bearings, 1 gallon metal container. This model is for larger institutions, warehouses, industrials, etc., and is also highly recommended for moth-proofing solutions. Write today for complete description and circulars.

BREUER ELECTRIC MFG. CO.

862 Blackhawk Street **Chicago, Ill.**

We do not sell insecticides. Our business is manufacturing sprayers.
Patented in U.S.A. and Foreign Countries

AN ERTEL PRE-FILTER



For a Brighter Filtrate . . . with Fewer Interruptions

• **Remove the material that causes clogging . . . and you remove 30 to 70% of your filtration costs.**

Frequent changing of sheets and disks is ended once and for all . . . the heavier matter is removed before the liquid reaches the polishing pads . . . and both production and sales are speeded up. Use the Ertel pre-filter for a week and you'll smile at the out-moded, slow and more costly methods. Write for complete particulars.

• **Ertel Portable Mixers . . . either direct driven or back geared.**

ERTEL ENGINEERING CORP.

Dept. C., 120 East 16th St., New York, N. Y.

When asked his opinion of the Peet-Grady Method for determining the toxicity of pyrethrum extracts and as an accurate means of evaluating pyrethrum, Dr. Ruzicka declined to express an opinion, giving as his reason that he was not sufficiently familiar with the method.

—— ♦ ——

Headed by H. F. Johnson, Jr., president of S. C. Johnson & Son, Inc., wax makers, Racine, Wis., an expedition to collect scientific data on industrial uses of tropical plants will leave for South America shortly. A three month trip is planned, and the main purpose is to discover, if possible, new growths of the Carnauba palm. The expedition is being backed by S. C. Johnson & Son, Inc.

—— ♦ ——

L. C. Palmer, supervisor of cleaning at Rockefeller Center, New York, whose article in a recent issue of SOAP on the soap and cleaning problems at Radio City attracted so much interest, has written asking us to correct certain discrepancies which resulted from condensing his original manuscript. He points out that in the case of cleaners for mastic floors which contain tar and pigment, and for linoleum, alkalis are never added as they would bleed the floors. For these surfaces pure neutral soap is used. On rubber surfaces, no soaps of any kind are ever used, modified alkalies or a soft volcanic ash mixture being the standard treatment. Silver is cleaned by dipping in a chemical solution with aluminum present, this removing the silver sulfide in from 15 seconds to 2 minutes depending on the extent of discoloration of the silver.

—— ♦ ——

Curran Corporation, Somerville, Mass., announces a new product "Printers Gunk Compound", a 100 per cent wax solvent which will remove wax, tar and oil from a lacquered or painted surface before refinishing. This new product is easily handled and can be quickly applied.

—— ♦ ——

F. L. Sulzberger of Federal Varnish Co., Chicago, returned to the United States recently from an extensive tour of Norway, Sweden and other parts of Europe. He was accompanied by his family.

—— ♦ ——

Midway Chemical Company, insecticide sprays and polishes, is building an addition to its Chicago plant. A new factory will be opened in Toronto, Canada, this month.

—— ♦ ——

Ludcke Corp., Watertown, Mass., capping machinery, has recently appointed sales representatives as follows: K. A. Moores, Inc., Seattle; Thomas L. Hamilton, St. Louis; E. Robert Levy, Eyrle Import Co., San Francisco; Charles DeWitt, Jr., Baltimore; L & M Sales Co., Chicago; F. J. Johnson, Philadelphia.

—— ♦ ——

E. I. du Pont de Nemours & Co. are introducing a new automobile finish known as "Sol-Kleen."

McCORMICK & CO. OPEN TEA HOUSE

McCormick & Co., Baltimore, have recently adopted a new procedure in receiving callers at their Baltimore offices—a new reception room and method of reception which injects a spirit of hospitality into the company's business relations. Callers are conducted into a reception room fitted up as a faithful reproduction of an old English inn, and there enjoy a cup of tea as they state their business. The inn, which has just been opened, is believed to be the only one of its kind in the country.

Caller Being Received in McCormick Tea House

In commenting on its opening, C. P. McCormick, president of McCormick & Co., said: "We have built the tea house as an expression of our belief that goodwill can be fostered more effectively through hospitality than through high pressure. We believe our visitors will enjoy the quiet, old-world atmosphere of the inn, and will spread abroad a friendly feeling for our company by telling their friends about it and urging them to accept our open invitation to call."

Besides its extensive pyrethrum and insecticide business, McCormick & Co. have long been important factors in the tea business. The tea served is the company's own product. Tea is served each afternoon to the office staff, and it is expected that the tea-house will also help promote the use of tea as an afternoon "pick-up" drink among other business organizations.

—— ♦ ——

The Wonder-Mist Polish Co., Melrose, Mass., and the A-One Products Co., New York, have entered into stipulations with the Federal Trade Commission whereby they will discontinue practices of unfair competition in the sale of cleaning fluids. Both companies have agreed to discontinuance of certain exaggerated representations of their products.

—— ♦ ——

City Fumigating Co., St. Louis, has taken new quarters at 3933 Lindell St.

ROACH POWDERS

(*From Page 93*)

Another point which has become highly controversial in the insecticide industry is the question of the relative effectiveness of roach powders and liquid pyrethrum sprays against roaches. This controversy has also been carried over into the realm of other crawling insects, but these are of no moment here. In the case of liquid sprays,—again reflecting what appears to be majority opinion of those who are considered disinterested,—they will kill the roaches if a sufficient quantity gets on the insect and if the spray is of sufficient killing power. The hitch seems to be in getting the spray to the roach, whose ability to hide away high up on the inside of baseboards and in the walls, is well known. The spray, unless applied in large quantities with vaporizers or time-set electric sprayers, is held not to get to the insect, and to be of too short a duration to await his coming out of hiding to feed after dark. For ordinary household use, and for professional exterminating use too, for that matter, the powder is held by those making both types of insecticide products, to be the most effective means of ridding a premises of a heavy roach infestation. Cage tests show that most sprays will kill the roaches quickly,—in fact, much quicker than a powder. However, it seems to be a case of physical inability to get the spray to the right place in actual practice.

Then, there is the same controversy between phosphorus pastes and powders. Owing to the limited number of comparative tests, however, it is difficult to draw any conclusions. The fact remains that in competition with powders, pastes continue to sell widely, especially for the use of professional exterminators. There are also other materials such as plaster of paris, hellebore, barium carbonate, and others, but they are of minor importance. The fact remains that fluoride-pyrethrum mixtures of one kind and another have come to be looked upon as the standard roach powder at the present time.

A comparison of costs to the manufacturer of the raw materials in modern roach powders, shows a pyrethrum-derris mixture as the most costly, running all the way down the scale to diluted borax mixtures. Where a straight insect powder today costs in the neighborhood of 15c per pound, the cost a year ago was over 30c. Derris and cube at present cost from 40c up to 50c per pound. The following table gives the approximate costs of common combinations on the market:

Pyrethrum, 50%; fluoride, 50%	12c	lb
Pyrethrum, 33%; fluoride, 76%	10c	lb.
Fluoride, 50%; inert filler, 50%	5c	lb.
Fluoride, 100%	8½c	lb.
Pyrethrum, 10%; fluoride, 90%	9c	lb.
Pyrethrum, 90%; derris or cube, 10%	17½c	lb.
Fluoride, 50%; pyrethrum, 10%; borax, 40%.	7c	lb.
Fluoride, 25%; borax, 75%	4c	lb.

Central Disinfectant Co., has recently been incorporated in Toledo, Ohio. The concern will manufacture disinfectants.

Study Control of Cabbage Worm

During the last three years experiments have been conducted at several field laboratories to study the control of the cabbage worm. Derris dusts, either home-mixed or commercial, containing from 0.5 to 1.0 per cent of rotenone, gave the most satisfactory results of any of the insecticides tested. Several non-alkaline materials, including finely-ground tobacco dust, finely pulverized clay, talc, diatomaceous earth, infusorial earth, and sulfur, proved satisfactory as diluents. Some of these diluents have the advantage of being more economical and more readily available in some sections of the country than in others.

Pure fresh pyrethrum dust, containing approximately 0.9 per cent of total pyrethrins, mixed with 5 parts by weight of the same diluents just mentioned for use with derris, gave satisfactory results. This dust mixture gave best results when applied late in the afternoon or early in the evening.

Good control was obtained with a spray consisting of a derris root powder suspended in water and diluted in such a manner as to give a rotenone content ranging from 0.02 to 0.025 per cent in the spray,—for example, 2 to 2½ pounds of derris root powder containing 4 per cent of rotenone per 50 gallons of water. Under some conditions it was found necessary to add to the spray a non-alkaline spreader or sticker such as liquid or powdered soap, miscible pine oil, or one of the sulfonated oils. Fairly satisfactory results were obtained with commercial pyrethrum extracts, or pyrethrum-derris extracts in combination, diluted in accordance with the directions given by the manufacturer. W. H. White. *J. Econ. Entomology* **28,** 607-9 (1935).

A rapid method for the determination of pyrethrin II is based on the fact that pyrethrin II yields methyl iodide when boiled with hydriodic acid. The methyliodide is absorbed in an acetic acid solution of potassium acetate to which bromine has been added. Iodic acid is formed, the excess bromine removed, and iodine set free by acidification in the presence of potassium iodide. The iodine is titrated by a standard solution of sodium thiosulfate solution. As 6 atoms of iodine are liberated for each methoxy group, 1 cc. of 0.05 *N* sodium thiosulfate solution is equivalent to 3.11 mg. of pyrethrin II. This method gives results somewhat lower than results by the acid methods. The latter are believed to be in error due to the presence of fatty acids. H. L. Haller and Fred Acree. *Ind. Eng. Chem.*, Anal. Ed. **7,** 343-4 (1935).

A patent for an agricultural insecticide has recently been granted to Grasselli Chemical Co., covering a product said to be an alcohol-benzine extract of soy beans to which butyl alcohol is added. Phosphatides in general are said in the patent to be eminently suited for use as contact insecticides, and the crude phosphatides extracted from soy beans were found to be particularly valuable.

CRYS-TINTS

PERFUME and color Para Blocks and Crystals, Bath Salts and Moth Balls in one operation.

The use of Crys-Tints eliminates doubtful results for they provide uniform distribution of Odor and Color and are extremely lasting and stable.

Orange Blossom	**Narcisse**	**Violet**
New Mown Hay	**Wisteria**	**Lilac**
Carnation	**Oriental**	**Rose**
Lavender	**Jasmin**	**Pine**

8 OUNCES TO 100 LBS., RECOMMENDED

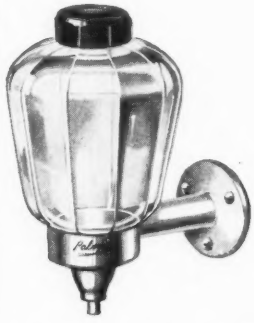
$1.50 per Lb.
Double Strength, $2.90 per Lb.
Series D—Uncolored, $ .50 per Lb.
Series E—Uncolored, $1.00 per Lb.

Compagnie Parento, Inc.

CROTON-ON-HUDSON, N.Y.
NEW YORK CITY TORONTO

PALMER SOAP DISPENSERS

The Palmer SUPER SERVER Dispenser (right) is priced very low, but has no equal in value. Metal parts are non-corrosive, stainless, chrome alloy. One piece bracket in beautiful satin chrome-like finish. Valve parts easily removed for cleaning or replacement. Crystal glass decagon bowl (opal glass on special order)—decagon black bakelite cap. Large 1-inch opening makes filling easy—no need for removing or inverting bowl. The lowest priced push-in dispenser—yet neat, compact, durable.



The Palmer "D.C." Dispenser (dependable construction), shown at the left, is the lowest priced dispenser offered. Has simple, positive spring-controlled valve. All metal parts chrome nickel plated. Fill through large 1-inch top opening without removing or inverting bowl. Crystal glass decagon bowl (opal glass on special order)—with decagon black bakelite cap.

Write for new catalog on complete Palmer line of soap dispensers, janitor and sanitary supplies, maintenance materials and equipment.

Palmer PRODUCTS INC
WAUKESHA, WIS.
Adjacent to Milwaukee

"EDCO" FRAGRANCE and FRAGRANCEERS

. . . the ideal perfuming device for theatres, hotels, dept. stores, etc. . . . made in six designs . . . artistic and effective . . . sold for use only with EDCO FLUID FRAGRANCE . . . made of specially treated clay compound . . . single servicing lasts two weeks . . . send for prices and details—the original manufacturer

ELLIS DAVIDSON CO., INC.

40 WEST 22nd STREET NEW YORK

Eagle Vase

"EDCO" FLUID FRAGRANCE

. . . concentrated perfumes for use only in the EDCO Fragranceer . . . in lavender, trefle, blossom, lilac, violet, and twelve other odors . . . repeaters and money makers for the jobber.

Modernistic

AN-FO BRAND

NO. 20

CONCENTRATED

PYRETHRUM EXTRACT

HAS SOME REAL ADVANTAGES THAT WOULD PAY YOU

TO INVESTIGATE

MADE ON THE PACIFIC COAST
CLOSE TO SUPPLIES

WRITE FOR SAMPLES AND PRICE

AN-FO MFG. CO., OAKLAND, CALIF.

Pulp Products Company, 60 East 42nd Street, New York, recently organized, has purchased the Moulded Pulp Division of the F. N. Burt Company, Buffalo, and is now manufacturing moulded pulp containers of various types. These new containers which can be coated or colored as desired both inside and outside, are being offered to manufacturers of a variety of liquid, solid and dry products. The company states that they are suitable for packaging cleansers, dry insecticides and other similar and related specialties, and that they may also be used when properly coated to package various liquid and paste soap products. The company advises that these containers can be formed in any shape or size, the resulting product being seamless, durable and light in weight.

TRADE MARKS GRANTED

(*From Page* 45)

328,101. Water Softener. Morning Blue Products, St. Louis. Filed June 18, 1934. Serial No. 352,838. Published July 9, 1935. Class 6.

328,122. Antiseptic. McKesson & Robbins, Inc., Bridgeport, Conn. Filed May 20, 1935. Serial No. 365,145. Published July 9, 1935. Class 6.

328,222. Germicidal and Antiseptic Tablet. Eta Co., Chicago. Filed May 6, 1935. Serial No. 364,574. Published July 9, 1935. Class 6.

328,227. Insecticide and Fungicide. Ridge Tool Co., North Ridgeville, Ohio. Filed May 8, 1935. Serial No. 364,684. Published July 9, 1935. Class 6.

328,229. Liquid Insecticides. Robert C. White Co., Philadelphia. Filed May 8, 1935. Serial No. 364,693. Published July 9, 1935. Class 6.

328,230. Liquid Dentifrice and Antiseptic. General Desserts Corp., New York. Filed May 9, 1935. Serial No. 364,719. Published July 9, 1935. Class 6.

328,267. Polish. Allen Smith, Los Angeles. Filed April 13, 1935. Serial No. 363,723. Published July 9, 1935. Class 16.

328,268. Detergent and Polishing Composition. Socony-Vacuum Oil Co., New York. Filed April 13, 1935. Serial No. 363,724. Published July 9, 1935. Class 16.

328,277. Wall Paper Cleaner. Absorene Manufacturing Co., St. Louis. Filed April 29, 1935. Serial No. 364,316. Published July 16, 1935. Class 4.

328,280. Shampoos and Antiseptic Preparations. Max M. Rosenberg, New York. Filed February 21, 1935. Serial No. 361,694. Published April 23, 1935. Class 6.

328,304. Hand Cleaner. Cudahy Soap Works, Chicago. Filed April 27, 1935. Serial No. 364,281. Published July 16, 1935. Class 4.

328,305. Shoe Polish. Morrison-Atlas Products, Inc., Chicago. Filed April 29, 1935. Serial No. 364,348. Published July 2, 1935. Class 4.

328,307. Cleaning Compound for Glass. Atlas Supply Co., Newark. Filed May 1, 1935. Serial No. 364,410. Published July 2, 1935. Class 4.

328,308. Soaps. Lockwood Brackett Co., Boston. Filed May 2, 1935. Serial No. 364,480. Published July 2, 1935. Class 4.

328,311. Liquid Wax. Mahlon D. Hauser, Detroit. Filed January 3, 1935. Serial No. 359,888. Published July 16, 1935. Class 16.

328,317. Rug and Carpet Cleaner. Leslie W. Taylor, Indianapolis. Filed January 20, 1935. Serial No. 362,157. Published July 16, 1935. Class 4.

328,327. Getz-All Products Co., Portland. Filed July 23, 1934. Serial No. 354,204. Published July 2, 1935. Class 4.

328,356. Shaving Cream. Travis Co., New York. Filed May 18, 1933. Serial No. 337,977. Published July 18, 1933. Class 4.

328,387. Detergent. Calgon, Inc., Pittsburgh. Filed November 28, 1934. Serial No. 358,720. Published July 2, 1935. Class 4.

328,388. Detergent. Calgon, Inc., Pittsburgh. Filed November 28, 1934. Serial No. 358,719. Published July 2, 1935. Class 4.

328,393. Stock Spray. American Beauty Five, Nashville. Filed August 31, 1934. Serial No. 355,654. Published July 16, 1935. Class 6.

328,398. Cleaning Preparation. T & T Co., Peekskill, N. Y. Filed May 17, 1935. Serial No. 365,045. Published July 16, 1935. Class 4.

328,430. Shaving Cream. American Safety Razor Corp., Brooklyn. Filed May 8, 1935. Serial No. 364,654. Published July 9, 1935. Class 4.

328,494. Glass Cleaner and Polish. Union Oil Company of California, Los Angeles. Filed May 25, 1935. Serial No. 365,405. Published July 23, 1935. Class 4.

328,523. Insecticides. P. D. G. Laboratories, Atlanta. Filed May 2, 1935. Serial No. 364,471. Published July 16, 1935. Class 6.

328,539. Insecticides and Disinfectants. Socony-Vacuum Oil Company, New York. Filed April 18, 1935. Serial No. 363,950. Published July 23, 1935. Class 6.

328,605. Shampoo Preparations. Balistreri Italian Rose Co., Milwaukee. Filed May 17, 1935. Serial No. 365,019. Published July 23, 1935. Class 6.

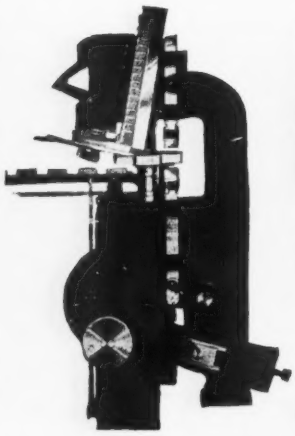
328,665. Cleaning Preparation for Rugs and Upholstery. Sanavene Manufacturing Co., St. Louis. Filed May 11, 1935. Serial No. 364,844. Published July 23, 1935. Class 4.

328,686. Antiseptic and Germicides. E. R. Squibb & Sons, New York. Filed April 24, 1935. Serial No. 364,143. Published July 16, 1935. Class 6.

328,695. Antiseptic, Germicide, Deodorant, Disinfectant. Veralin, Inc., Chicago. Filed March 30, 1935. Serial No. 363,246. Published July 16, 1935. Class 6.

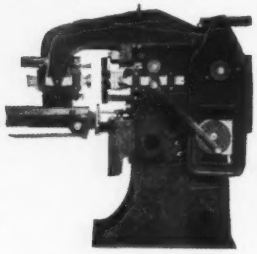
328,733. Shoe Polish and Shoe Cleaners. The Lincoln Shoe Products Mfg. Co., Providence, R. I. Filed January 14, 1935. Serial No. 360,225. Published July 23, 1935. Class 4.

Special Offerings of SOAP MACHINERY *Completely Rebuilt!*

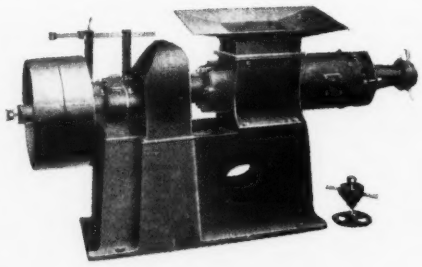


Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our own shops.

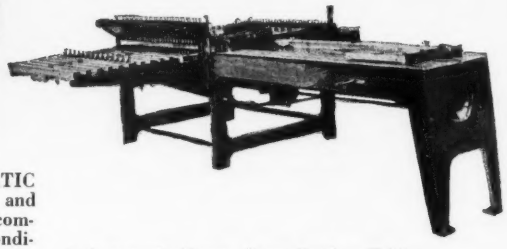
H-A SOAP MILL
This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls.



4 JONES AUTOMATIC combination laundry and toilet soap presses. All complete and in perfect condition.

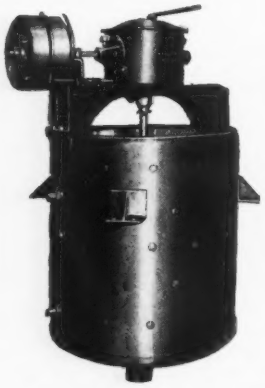


Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.



2 Automatic Power Soap Cutting Tables

NEW CRUTCHERS!



This Newman brand new, all steel steam jacketed soap crutcher. Will crutch any kind of soap. We also build another crutcher especially adapted for laundry soap in addition to other new soap machinery such as frames, cutting tables, etc. Send for complete list.

ADDITIONAL REBUILT SOAP MACHINERY

- H-A 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.
- Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.
- Ralston Automatic Soap Presses.
- Scouring Soap Presses.
- Empire State, Dopp & Crosby Foot Presses.
- 2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
- H-A 4 and 5 roll Steel Mills.
- H-A Automatic and Hand-Power slabbers.
- Proctor & Schwartz Bar Soap Dryers.
- Blanchard No. 10-A and No. 14 Soap Powder Mills.
- J. H. Day Jaw Soap Crusher.
- H-A 6, 8 and 10 inch Single Screw Plodders.
- Allbright-Nell 10 inch Plodders.
- Filling and Weighing Machines for Flakes, Powders, etc.
- Steel Soap frames, all sizes.
- Steam Jacketed Soap Remelters.
- Automatic Soap Wrapping Machines.
- Glycerin Evaporators, Pumps.
- Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.
- Perrin 18 inch Filter Press with Jacketed Plates.
- Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.
- Day Grinding and Sifting Machinery.
- Schultz-O'Neill Mills.
- Day Pony Mixers.
- Gardiner Sifter and Mixer.
- Proctor & Schwartz large roll Soap Chip Dryers complete.
- Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.
- Day Talcum Powder Mixers.
- All types and sizes—Tanks and Kettles.
- Ralston and H-A Automatic Cutting Tables.
- Soap Dies for Foot and Automatic Presses.
- Broughton Soap Powder Mixers.
- Williams Crutcher and Pulverizer.
- National Filling and Weighing Machines.

All used equipment rebuilt in our own shops and guaranteed first class condition.

Send us a list of your surplus equipment—we buy separate units or complete plants.

NEWMAN TALLOW & SOAP MACHINERY COMPANY

1051 W. 35th St. CHICAGO

Our Forty Years Soap Experience Can Help Solve Your Problems

CLASSIFIED ADVERTISING

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

Positions Open

Wanted—Executive position in soap manufacturing. Graduate chemical engineer, experienced, employed—but dissatisfied. Toilet, powder, laundry, textile soap. Address Box No. 635, care *Soap*.

Soap-formulas and short cuts, assistance in manufacturing difficulties by practical soap chemist with over 20 years' experience. Specialist in soap stock and powders, all kinds of potash soaps, shaving creams and shampoos. Address Box No. 643, care *Soap*.

Chemist—Woman with a wide experience in the chemistry of soaps, textile oils and specialties, sulfonated oils, desires position in laboratory. Has pharmacy degree and previous experience in cosmetics and toilet preparations. Experienced in research, routine analysis, and factory control. Salary to start—$25.00. Address Box No. 640, care *Soap*.

Position Wanted — Responsible and thoroughly experienced soapmaker with chemical training desires new position. Familiar with modern manufacture of laundry and toilet soaps, liquid and soft soaps. Experienced in refining oils, fats and glycerine. Can make side lines such as floor products, disinfectants, insecticides, etc. Am forty years of age, educated in German technical schools. Address Box No. 641, care *Soap*.

Sales Manager—Seven years personal sales promotion experience opening new accounts for national concern, metropolitan New York territory, selling soaps, powders and detergents to hotels, institutions, hospitals, restaurants. Large personal following. Self-starter. Giltedge references. Present employed. (Minimum Salary $5,000). P. O. Box 34, Woodhaven, N. Y.

Soapmaker and Chemist—whose past record and experience qualify him for meeting highest technical requirements, desires steady employment with progressive concern. Address Box No. 642, care *Soap*.

Consulting Sanitary Specialties Chemist will be available November 15th. Over 10 years' experience manufacturing all kinds of disinfectants, insecticides, soaps, detergents, deodorants, polishes, cleansers, etc. Graduate chemist who has specialized in this work and is fully capable of guiding firms in a business of this type from the purchasing of raw materials through the manufacturing of standardized finished products. Address Box No. 631, care *Soap.*

Chemist, Ph.D., with many years' experience in soaps and cosmetics. in responsible positions with leading firms, desires position with progressive concern. Excellent references. Address Box No. 632, care *Soap.*

Superintendent and Soapmaker—Can make and analyze all kinds of soap and soap material. Address Box No. 636, care *Soap.*

Soapmaker — Reliable, 16 years' experience in textile soaps, laundry chips and bars, oil soaps, specialty soaps, etc. Seeks permanent connection. Address Box No. 637, care *Soap.*

Positions Wanted

Sales Director—By established Chicago manufacturer—F2½ rating. Must be dependable, experienced, and have personal following in field of soaps, disinfectants, etc. A permanent connection with interest in business open to right man. Company operating at profit but feels that now is the time to expand. Address Box No. 633, care *Soap.*

A Prominent Manufacturer of liquid soaps, disinfectants, deodorizing cakes, etc., has an opening for a dependable sales representative. Address Box No. 638, care *Soap.*

Miscellaneous

Wanted—Capital investment and active co-operation by sales expert or chemist in long established, favorably known chemical manufacturing company to enable company to develop and increase sales. Full protection of investment guaranteed. If interested, write A. H. Mullers, 84 Highland Avenue, Arlington, Mass.

Floor Brushes—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

Distributors — We manufacture Metal, Silver, Stove Polishes. Also complete line of Bar Room Cleaning Materials. We specialize in bulk jobbing trade. Send for prices. Sales representatives wanted. The Slick-Shine Co., Inc., Newark, N. J.

For Sale—Old trademark liquid insecticide formulae, etc. Most attractive flat lithographed can. Sacrifice for quick purchase. Address Box No. 634, care *Soap.*

Wanted—One Jones Automatic Combination Laundry and Toilet Soap Press. Must be in good condition. Address Box No. 644, care *Soap.*

The name of Raclin, Snow & Cleaver, Inc., brokers in soap making materials, has been changed to Snow & Cleaver, Inc. New York offices are maintained at 15 William St.

—— ♦ ——

Flash Laboratories, Chicago, have introduced a new dry cleaner known as "Fabrikleen", which is packaged in a bottle equipped with an applicator.

—— ♦ ——

Zip Laboratory, Inc., Norfolk, Va., has been organized by W. L. Sinner to deal in chemical and drug products.

Where to buy

RAW MATERIALS AND EQUIPMENT

for the Manufacture of Soaps and Sanitary Products

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 128, for page numbers, *"Say you saw it in SOAP."*

ALKALIES

American Cyanamid & Chemicals Corp.
Columbia Alkali Co.
T. G. Cooper & Co.
Dow Chemical Co.
Eastern Industries
Hooker Electrochemical Co.
Innis, Speiden & Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

AROMATIC CHEMICALS

American-British Chemical Supplies
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer, Inc.
E. I. du Pont de Nemours & Co.
Felton Chemical Co.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Merck & Co.
Monsanto Chemical Co.
Schimmel & Co.
Solvay Sales Corp.
A. M. Todd Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

BULK AND PRIVATE BRAND PRODUCTS

An-Fo Manufacturing Co.
Baird & McGuire, Inc.
Chemical Supply Co.
Clifton Chemical Co.
Davies-Young Soap Co.
Eagle Soap Corp.
Federal Varnish Co.
Fuld Bros.
Harley Soap Co.
Hull Co.
Koppers Products Co.
Kranich Soap Co.
Palmer Products
Philadelphia Quartz Co.
John Powell & Co.
Geo. A. Schmidt & Co.
White Tar Co.
Windsor Wax Co.

CHEMICALS

American-British Chemical Supplies
American Cyanamid & Chemicals Corp.
Columbia Alkali Co.
T. G. Cooper & Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Eastern Industries
General Chemical Co.
Grasselli Chemical Co.
Hooker Electrochemical Co.
Industrial Chemical Sales Co.
Innis, Speiden & Co.
Mechling Bros. Chemical Co.
Merck & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
Pfaltz & Bauer
Solvay Sales Corp.
Standard Silicate Co.
Jos. Turner & Co.
Victor Chemical Works
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS
(Cresylic Acid, Tar Acid Oil, etc.)

American-British Chemical Supplies
Baird & McGuire, Inc.
Barrett Co.
T. G. Cooper & Co.
Innis, Speiden & Co.
Koppers Products Co.
Monsanto Chemical Co.
Reilly Tar & Chemical Co.
White Tar Co.

COLORS

Fezandie & Sperrle
Pylam Products Co.

CONTAINERS and CLOSURES

American Can Co. (Tin Cans, Steel Pails)
Anchor Cap & Closure Corp. (Closures & Bottles)
Cin-Made Corp. (Paper Cans)
Continental Can Co. (Tin Cans)
Ellis Davidson Co. (Perfume Disseminators)
Hinde & Dauch (Corrugated Fibre Products)
Maryland Glass Corp. (Bottles)
National Can Co. (Tin Cans)
Owens-Illinois Glass Co. (Bottles)
Wilson & Bennett Mfg. Co. (Steel Pails and Drums)

DEODORIZING BLOCK HOLDERS

Cin-Made Corp. (Paper)
Clifton Chemical Co.
Eagle Soap Corp.
Fuld Bros.
Garnet Chemical Co.
Palmer Products, Inc.

ESSENTIAL OILS

Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
Fritzsche Brothers, Inc.
Leghorn Trading Co.
Magnus, Mabee & Reynard, Inc.
Schimmel & Co
A. M. Todd Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

(*Continued on page* 126)

PROFESSIONAL DIRECTORY

RAW MATERIAL AND EQUIPMENT GUIDE

(*Continued from page* 124)

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 128, for page numbers, *"Say you saw it in SOAP."*

MACHINERY

Battle Creek Wrapping Machine Co. (Packaging Machinery)
Blanchard Machine Co. (Soap Powder)
Ertel Engineering Corp. (Filters, Mixers, Bottle Fillers)
Anthony J. Fries (Soap Dies)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
International Nickel Co. (Monel Metal)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Package Machinery Co. (Packaging)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Stokes & Smith Co. (Packing Machinery)
U. S. Bottlers Machinery Co. (Bottle Filling and Cleaning)

MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.
Stein-Brill Co.

MISCELLANEOUS

Anchor Cap & Closure Corp. (Metal Caps)
T. G. Cooper & Co. (Waxes)
Dobbins Mfg. Co. (Pails, Mop Wringers, etc.)
Flour City Brush Co. (Brushes)
Garnet Chemical Co. (Drip Machines)
General Chemical Co. (Fluorides)
General Naval Stores Co. (Pine Oil-Rosin)
Hercules Powder Co. (Pine Oil and Rosin)
Industrial Chemical Sales Co. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants and Waxes)
Murray & Nickell Mfg. Co. (Moth Proofing Liquid)
Pfaltz & Bauer (Sodium Fluoride)
Pylam Products Co. (Lathering Agent)
Rohm & Haas Co. (Insecticide Base)

OILS AND FATS

T. G. Cooper & Co.
Eastern Industries
Independent Mfg. Co.
Industrial Chemical Sales Co.
Leghorn Trading Co.
Michel Export Co.
Murray Oil Products Co.
Newman Tallow & Soap Machinery Co.
Theobald Animal By-Products Refinery
United Africa Co.
Welch, Holme & Clark Co.

PARADICHLORBENZENE

Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Merck & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.

PERFUMING COMPOUNDS

Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer, Inc.
Felton Chemical Corp.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Pfaltz & Bauer
Schimmel & Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

PETROLEUM PRODUCTS

Atlantic Mfg. Co.
O'Connor & Kremp
Sherwood Petroleum Co.
L. Sonneborn Sons.

PYRETHRUM AND DERRIS PRODUCTS

Insect Flowers and Powder, Pyrenthrum Extract, Derris Products

An-Fo Mfg. Co. (Extract)
R. J. Prentiss & Co.
Derris, Inc.
McCormick & Co.
McLaughlin, Gormley, King Co.
John Powell & Co.
Sherwood Petroleum Co.

SOAP DISPENSERS

Clifton Chemical Co.
Eagle Soap Corp.
Fuld Bros.
Garnet Chemical Co.
Palmer Products

SODIUM SILICATE

General Chemical Co.
Grasselli Chemical Co.
Mechling Bros. Chemical Co.
Philadelphia Quartz Co.
Standard Silicate Co.

SPRAYERS

Breuer Electric Mfg. Co.
Dobbins Mfg. Co.
Fumeral Co.
Hudson Mfg. Co.
Lowell Sprayer Co.

TRI SODIUM PHOSPHATE

General Chemical Co.
Grasselli Chemical Co.
Monsanto Chemical Works
Victor Chemical Works
Warner Chemical Co.

INDEX TO ADVERTISERS

For product classification see pages 124 and 126

*For further details see announcement in 1935 SOAP BLUE BOOK

Every effort is made to keep this index free of errors, but no responsibility is assumed for any omission.

Here and There

TOO bad for the soap industry that on Mussolini's expedition to civilize the Ethiopians he insists on making the bayonet and the machine gun his implements rather than soap and a wash cloth. Imagine the sales possibilities in a new brand of black soap for washing Ethiopians. Speaking seriously, the index of soap consumption is often taken by sociologists as a measure of the degree of civilization which a country has attained. The first step in civilizing a savage is to give him a bath so you can see what you have to work with.

—— ♦ ——

One of the commonest experiences we have in selling subscriptions to SOAP is to have a prospect tell us that he is already a subscriber, when as a matter of fact he is only getting an occasional sample copy. Of course a copy now and then is better than none at all—but a subscription guaranteeing that you will receive twelve copies a year is the only safe bet. Just the issues you miss may contain the articles of most direct interest to you in your particular line. And only subscribers get free copies of the SOAP BLUE BOOK, the 1936 edition of which is now in preparation.

—— ♦ ——

Just a reminder that if you expect to offer any special combination packages for the Christmas gift trade, you had better not delay starting work on them any longer.

—— ♦ ——

Marcus H. Smith, publisher of *Soap, Perfumery & Cosmetics*, London, called on us this past month and we had an opportunity to exchange a few professional confidences. Mr. Smith told us that his principal competition comes from publications who step up to his advertising prospects and say, "What field do you want to cover? We cover it." We broke down and admitted that we are sometimes bothered by the same thing.